

N.E.C.C.



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NORTHERN ESSEX COMMUNITY COLLEGE

Haverhill, Massachusetts

1982 - 1984



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CATALOG
1982 - 1984

NORTHERN ESSEX COMMUNITY COLLEGE
ELLIOTT STREET
HAVERHILL, MASSACHUSETTS 01830
(617) 374-0721

Robert E. McDonald
Dean of Academic Affairs

John R. Dimitry
President of the College

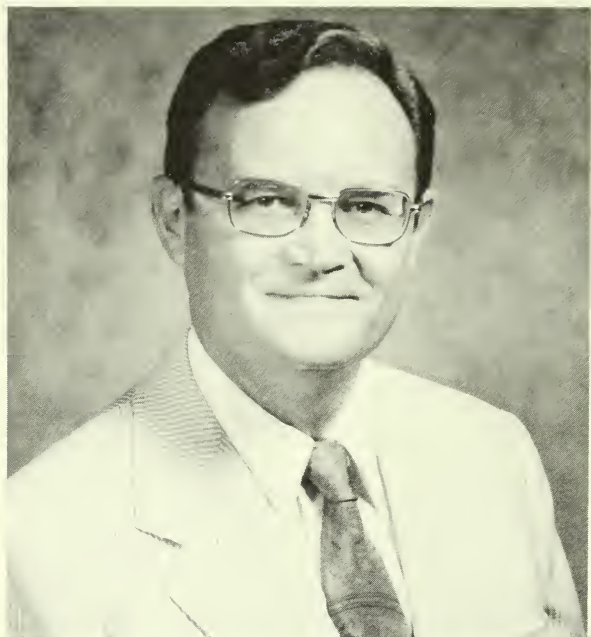
LOCATED JUST OFF ROUTE 495
AT EXIT 52 IN HAVERHILL
TO SERVE THE MERRIMACK VALLEY

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From the President

It is a pleasure to welcome you to Northern Essex Community College, an educational institution which is dedicated to serving the comprehensive needs of **all** its students - those pursuing occupational training, those pursuing traditional Associate Degrees, those seeking transfer to four year institutions of higher education, and those wishing to focus on specific fundamental skill areas. In addition to academic programs, the college also offers a wide range of cultural and recreational activities.

Whatever your background, your personal characteristics, your goals, we are here to serve you. In the nineteenth century, Thomas Carlyle wrote:

Let each become all that he was created capable of being; expand, if possible, to his full growth; and show himself at length in his own shape and stature, be these what they may.

This catalog describes the various educational opportunities and student services available to you at Northern Essex Community College to help you realize your own, individual shape and stature. The college's facilities and faculty are committed to providing a helpful, supportive academic atmosphere for you and all students preparing for their futures.

John R. Drinity

INTRODUCTION

NORTHERN ESSEX COMMUNITY COLLEGE

Northern Essex Community College is a public, two-year institution of higher learning offering comprehensive programs of study leading to the Associate in Arts degree, the Associate in Science degree or a Certificate of program completion. In addition, the Northern Essex Community College Division of Continuing Education and Community Services also offers opportunities for part-time study and short term programming designed to meet specific training needs.

Transfer programs are offered in the Liberal Arts, Business, Engineering Science and Business Education for those students planning to work toward a Bachelor of Arts degree or a Bachelor of Science degree at a four-year institution.

Career programs are offered for those students who intend to seek employment upon completion of the associate degree. Career programs, although not designed specifically for transfer, have significant transfer potential.

LOCATION

Northern Essex Community College is located on a scenic, rural campus bordering Lake Kenoza in Haverhill, Massachusetts. Just one minute from exit 52 on Interstate Route 495, Northern Essex is minutes away from the Greater Lawrence and Greater Newburyport areas, and less than thirty minutes from the City of Lowell.

PHILOSOPHY OF THE COLLEGE

Northern Essex Community College is committed to the belief that high quality, low cost education should and can be available to everyone in the community. People of all ages and backgrounds are welcome to utilize the educational opportunities offered.

Northern Essex seeks out potential students who may not be aware of the educational possibilities around them. Age, ethnic or religious background, or past academic records are not prohibitive factors to admission. The college encourages people to consider education throughout their lives.

To implement these ideals, the college has developed (and is continuing to expand) a wide variety of flexible programs to meet diverse community needs. The college attempts in its programming to directly reflect the interests of business, culture, health and industry in the Merrimack Valley area.

GOALS OF THE COLLEGE

Northern Essex is a community college designed to meet community needs. The college's community includes more than forty-five cities and towns in the Merrimack Valley, as well as localities in nearby southern New Hampshire. The essential mission of Northern Essex Community College is represented in the following goals which the college strives to realize:

- To provide a climate in which students can develop their potential and their intellectual, physical and social values and skills
- To provide responsive, high quality education for the citizens of the area
- To provide career programming for students which prepares them for employment
- To provide quality lower division programming for those students who are interested in transferring to upper division institutions
- To provide curriculum flexibility for those students who are unsure of their ultimate career objectives
- To foster a variety of teaching methods and subjects in order to provide the individual student with sufficient flexibility to adapt rapidly to a broad range of societal changes
- To provide a full range of appropriate and supportive student services
- To identify and serve specific segments of the population in our service area that may require specific programming approaches appropriate to community colleges, especially those who have been traditionally under-represented in post-secondary education
- To share actively in the cultural life of the community and to exercise leadership in a wide variety of cultural activities
- To promote excellent teaching by the faculty; to encourage the scholarly and professional growth of the faculty and staff
- To maintain an effective participatory governance system for the college
- To continue the development of interaction with area businesses, industries, institutions and service agencies in order to maintain and develop relevant curricula and services
- To foster successful career choices and job performance by promoting cooperative education experiences for all interested students in a wide variety of employment settings.
- To facilitate life-long learning and other community activities by functioning as an accessible and responsive resource center for the region
- To foster a sense of institutional identity and solidarity and to promote an educational dialogue among students, faculty, administration and governing and advisory boards
- To encourage experimentation and innovation in educational practices and policies.

STUDENT BODY

A total of approximately 8,500 students are currently enrolled at Northern Essex. About 3,300 students - generally recent high school graduates, but including a growing number of older persons - are enrolled each semester in the college's Day Division. Most Day Division students matriculate in specific associate degree programs; others, however, study on a part-time basis.

Over 5,000 additional students register each semester for part-time study in the college's Division of Continuing Education and Community Services. Many of these students are working toward an associate degree; others are interested in special interest courses only; still others combine credit course work with special interest courses.

In addition, a large number of students are enrolled in non-traditional programs of study such as the Discovery Program; developmental courses; Comprehensive Employment and Training Act (CETA) programs in special skill areas; and programs in the high technology area designed to fit the unique training needs of individual groups of students or particular employers.



ACCREDITATION

Northern Essex Community College is accredited by the New England Association of Schools and Colleges, Inc., which accredits schools and colleges in the six New England states. Accreditation by the Association indicates that the institution has been carefully evaluated and found to meet standards agreed upon by qualified educators.

Northern Essex supports the efforts of secondary school officials and governing bodies to have their schools achieve regional accredited status to provide reliable assurance of the quality of the educational preparation of its applicants for admission.

GOVERNANCE OF THE COLLEGE

In conformance with Chapter 15-A of the Laws of the Commonwealth, jurisdiction over Northern Essex Community College is shared by a local Board of Trustees and a central Board of Regents which governs all segments of public higher education in Massachusetts. The Boards, in turn, delegate responsibility for administration of the college to the President. The President solicits advice in the decision making process from a number of sources including a college-wide Academic Council as well as numerous programmatic advisory councils and commissions comprised of representatives from area businesses, industries, unions, social agencies, educational, public and private institutions in the Merrimack Valley.

CENTER FOR BUSINESS & INDUSTRY

Directed by a former Raytheon Corporate Vice President, the college's Center for Business and Industry is a prototype for the promotion and development of cooperative ventures between community colleges and industry. New courses are created, existing courses tailored and total programs are packaged in response to specific employer needs. Initial models developed by the Center have focused on the skill-training required by high technology industries in the Merrimack Valley. Through the Center the college is able to contribute effectively and directly to the economic vitality of the community.

THE N.E.C.C. FOUNDATION

The Northern Essex Community College Foundation is a non-profit organization incorporated by members of the community to provide support for the goals of the college and to expand opportunities available at the college.

GALLAUDET EXTENSION CENTER

Northern Essex is the home of the New England Regional Center for Gallaudet College. The Center implements a program of services to meet the academic, social, cultural and economic needs of hearing-impaired persons in New England. The Center also disseminates information on deafness and on grants relating to deafness to appropriate agencies and individuals, and serves as a resource for persons or agencies involved in services for deaf persons.

GENERAL COLLEGE POLICIES

AFFIRMATIVE ACTION:

Northern Essex Community College complies with the requirements of Title IX of the Higher Education Act of 1972 and with the Viet Nam Era Readjustment Assistance Act of 1974. Recruitment, admission, programs, activities and facilities are available to all on a non-discriminatory basis, without regard to race, color, national or ethnic origin, religion, sex, marital or parental status or handicap. The college is an equal opportunity/affirmative action employer.

ACCESSIBILITY FOR STUDENTS WITH DISABILITIES

Northern Essex Community College is physically accessible to all people, including those who use wheelchairs. All programs and activities are accessible to all otherwise-qualified students with disabilities. The college complies with the requirements and spirit of Section 504 of the Rehabilitation Act.

The college was one of the first in the Commonwealth to establish a full-time Handicapped Services Office, and continues to strive to make a college education possible for everyone in the community. In all its programs and activities, the college intends to accommodate the special needs of each student.

Inquiries regarding affirmative action and accessibility policies should be

addressed to the Affirmative Action/Equal Opportunity Officer and/or the Section 504 Compliance Officer, Northern Essex Community College, Haverhill, MA 01830.

DISCLOSURE OF ACADEMIC RECORDS

The Family Educational Rights and Privacy Act of 1974, as amended, prescribes the conditions under which information about students can be released. The provisions of the Act applicable to transcripts of academic records are basic to the following guidelines:

Students have the right to inspect their academic records and challenge the contents which they believe to be inaccurate or misleading. The institution may require that a staff member be present during the students' inspection and review.

Students have the right to transcripts of their own academic records. The institution is not obligated to provide students copies of original or source documents available elsewhere, but may do so and charge for copies. The institution may require students to submit signed requests for transcripts of their academic records.

The institution may refuse to provide transcripts of academic records for reasons such as nonpayment of financial obligation, but students cannot be denied the right to inspect and review their records.

The institution may disclose academic records without written consent of students to those designated school officials within the institution as determined by the institution to have legitimate educational interest.

The institution may disclose **directory information** to other educational institutions, government agencies, parents or guardians, and other authorized individuals as defined within the statute of the law. The institution currently defines public directory information as a student's name, local and mailing address, dates of attendance, anticipated date of graduation, sex, program, extracurricular interests, and veteran's status. This release of directory information may be done without written consent from the student.

Additional information about this law, the specific policies of this institution, and your rights to limit or deny disclosure of your academic record is available from the Registrar's Office.

FINANCIAL OBLIGATIONS

Fulfilling the terms of their financial contract with the college will guarantee students the right to receive documents confirming their attendance at the college and permit them to register for subsequent classes.

CHANGE OF ADDRESS

If at any time students change their legal or mailing address they should notify the college immediately so that their records can be brought up to date.

Northern Essex Community College reserves the right to withdraw or revise any provision or requirement described in the college's Catalog and Handbook. Supplements to these documents may be issued from time to time to present new or additional information.

FINANCING EDUCATION AT N.E.C.C.

TUITION AND FEES*

The Board of Regents of Higher Education of the Commonwealth of Massachusetts has established mandatory and discretionary fee schedules for all community colleges in the Commonwealth. At the present time, Northern Essex limits charges to the following fees. (ALL FEES ARE SUBJECT TO PERIODIC CHANGE: FEES LISTED ARE FOR THE FALL, 1982 SEMESTER AND ARE ALSO SUBJECT TO CHANGE.):

Day Division Fees

Application Fee - Fall 1982 Semester	
Residents (NON-REFUNDABLE)	\$14.00
Non-Residents (NON-REFUNDABLE)	\$25.00
Student Activity Fee (per semester)	
Full-time Students (12 credits or more)	\$25.00
Part-time Students (11 credits or under)	\$15.00
NOTE: This fee is refundable if withdrawal is made prior to the first class day of each semester; no refunds thereafter.	
Insurance Fee (Basic Plan - per year)	\$4.00
Degree Candidate's Fee (NON-REFUNDABLE)	\$25.00
Tuition - Massachusetts Residents	
Per semester - full-time students (12 credits or over)	\$317.00
Per credit hour - part-time students (11 credits or under)	\$26.50
Tuition - New England Regional Program Students	
Per semester - full-time students (12 credits or over)	\$396.50
Per credit hour - part-time students (11 credits or under)	\$33.00
NOTE: Non-resident students enrolled in the New England Regional Student Program pay the resident tuition rate PLUS a 25% surcharge.	
Tuition - Non-Residents	
Per semester - full-time students (12 credits or over)	\$1049.00
Per credit hour - part-time students (11 credits or under)	\$87.50
NOTE: Non-residents may qualify for New England Regional Student Program assistance to reduce tuition costs. Inquiries should be made to the Admissions Office.	

Institutional Education Fee (per credit hour)	\$3.00
Transcript Fee (per copy after initial free copy)	\$1.00

***Board of Regents and Board of Trustees are currently in the process of reevaluating all Fall 1982 tuition costs and fees. The listed tuition and fees are subject to change.**

Day Division Tuition Refund Policy

Refund of tuition is based on the date of official withdrawal from the college less the \$35.00 non-refundable seat deposit.

- 100% refund if withdrawal is made prior to the first day of class
- 90% refund if withdrawal is made during the first calendar week of classes
- 70% refund if withdrawal is made during the second calendar week of classes
- 50% refund if withdrawal is made during the third or fourth calendar week of classes
- No refund is made after the fourth calendar week of classes

Division of Continuing Education & Community Services Fees*

Tuition - credit courses (per credit hour)	\$35.00
Tuition - non-credit courses (based on contact hours)	varies
Tuition - Nursing courses (per credit hour)	\$91.50
Institutional Education Fee (per credit hour)	\$3.00
Registration Fee (NON-REFUNDABLE)	\$6.00
Late Registration Fee (NON-REFUNDABLE)	\$3.00
Insurance Fee	varies

NOTE: Continuing education students are now eligible for student insurance.

For information on insurance coverage and rates, contact the Business Office.

Degree Candidate's Fee (NON-REFUNDABLE)	\$25.00
Transcript Fee (per copy after initial free copy)	\$1.00

***Board of Regents and Board of Trustees are currently in the process of reevaluating all Fall 1982 tuition costs and fees. The listed tuition and fees are subject to change.**

Division of Continuing Education & Community Services Tuition Refund Policy

- 100% before first class meeting
- 50% before third class meeting
- No refund after third class meeting

RESIDENCY

To be eligible for the in-state tuition rate within the Day Division, students must be residents of Massachusetts. In general, one is considered a Massachusetts resident if one has been in continuous residence in Massachusetts for six months immediately prior to the date of application to the college and has established a domicile in Massachusetts. Massachusetts residents or students under the New England Regional Student Program can take advantage of the in-state tuition charges. **NOTE:** New England Regional Program students pay a 25% surcharge.

There is no residency requirement for students in the Division of Continuing Education and Community Services.

TUITION-FREE STUDY

Every student aged 60 or older may take courses at the college tuition-free on a seat-available basis (students are responsible for payment of all fees).

CHARGE-A-COURSE

Students may charge tuition and fees for courses taken in the Day Division and the Division of Continuing Education and Community Services. Procedures and appropriate forms are available in Room A-215 of the Business Office located in the Learning Resources Center (the Library). Refunds must be credited to the charge account (Master Charge, Master Card or VISA).

FINANCIAL AID

Lack of financial resources should not prevent a student from pursuing higher education. Federal and state funds are available to help students meet their educational costs. Financial aid can be either gift aid, which does not need to be repaid, or self-help aid. Scholarships and grants are forms of gift aid. Student loans and employment are forms of self-help.

Most financial aid is awarded based on need. Need is the difference between the cost of education and what the family or an independent student is financially able to contribute. Your family contribution is determined through an analysis of the income information reported on the Financial Aid Form (FAF). The FAF is sent to the College Scholarship Service in Princeton, New Jersey. The College Scholarship Service makes no financial aid awards, but is a processor of submitted information. The results are then sent to the colleges and agencies for which you have requested the information.

The Financial Aid Form is the application used to determine your eligibility for awards made by Northern Essex Community College, awards made by state scholarship programs, and awards made by the Pell Grant program. You can obtain a copy of the FAF from a high school counselor or from the N.E.C.C. Office of Financial Aid. If you have formally attended another post-secondary institution, you must submit a Financial Aid Transcript whether or not financial aid was received.

The aid programs were begun to help students meet the cost of education. It is the

philosophy of the federal government that parents have the primary responsibility to contribute to higher educational expenses of their dependent children. If an applicant receives support from a parent(s), then the parental income must be reported. This support is not limited to cash payments but may be in the form of low-cost housing, transportation or board provided by the parent. Parental income is not required of applicants who are self-supporting or who do not derive support from parents. You must meet all of the following requirements to be an independent student:

1. Has not or will not be claimed as an exemption for income tax purposes except by the spouse in the year prior to and the academic year aid is requested
2. Has not or will not receive financial assistance in excess of \$750 from parents in the year prior to and in the academic year aid is requested
3. Has not or will not live for more than six weeks in the parent's home in the year prior to and in the academic year aid is requested.

We suggest that you apply for financial aid well in advance of registration. The Financial Aid Form usually takes six weeks to process. Guaranteed Student Loans must be guaranteed by a state-wide agency; therefore, these funds may not be available to you for six weeks. If funds awarded by Northern Essex have been committed, then applications received after the deadline will be placed on a waiting list. **DEADLINES** are May 1 for the following fall semester, December 1 for the following spring semester, and April 1 for summer aid.

The Office of Financial aid receives funds from the federal government and makes financial aid awards from these monies. Students who are enrolled in a degree or certificate program for more than six credit hours per semester, and are making satisfactory academic progress, will be considered for financial aid. Assistance awarded directly by Northern Essex is in the form of a financial aid package, containing gift aid as well as self-help. Students who are not making satisfactory academic progress are ineligible for financial aid.

Northern Essex Community College has adopted the following statement to satisfy the requirement that a student receiving federal financial aid through the Title IV programs of National Direct Student Loan Program, College Work-Study Program, Supplemental Educational Opportunity Grant Program, Guaranteed Student Loan Program, Parent Loan for Undergraduate Students Program, and Pell Grant Program (34 CFR Parts 674, 675, 676, 682, 683 and 690) and other Title IV programs, as implemented and amended in the future, as well as N.E.C.C. funded aid such as the Board of Regents Tuition Waiver Program, Day Trust Fund Scholarship, and DCE Tuition Waiver Program, is maintaining **satisfactory academic progress** in the student's course of study, if all of the conditions below are met:

1. the student is enrolled as a matriculated student or accepted for enrollment in an eligible program,
2. the student is not on suspension status in accordance with the college academic rules published in the Catalog and the Academic Handbook,

3. the student has earned 50% of the cumulative attempted credits taken at Northern Essex Community College for which financial aid payments were received. For purposes of the policy, an annual review on August 31st of each year will be conducted,
4. The student has not withdrawn from two consecutive semesters after receiving a financial aid payment. Prior to reconsideration for financial aid after withdrawing from two consecutive semesters, a student must earn at least 9 credits with at least a GPA of 2.0 at N.E.C.C. (Day Division or Division of Continuing Education and Community Services),
5. a student who is determined not to be making satisfactory progress may appeal the decision based on extraordinary circumstances. A student wishing to appeal would use the process established by the Dean of Students for the reviewing of students for consideration as special students. If the Director of Financial Aid, Dean of Students and Special Student Counselor agree, the student may be considered to be making satisfactory progress due to the extraordinary circumstances.

THE FINANCIAL AID AWARD PACKAGE

An award package may be a combination of any or all of the following aid programs;

MASSACHUSETTS BOARD OF REGENTS TUITION WAIVER: The Massachusetts Board of Regents, the legislative governing board of all public institutions of higher education in the Commonwealth of Massachusetts, has adopted a Tuition Waiver program to ensure that those students most in need receive the financial assistance necessary to begin or continue their education at the post-secondary level.

In order to be eligible, a student must 1.) be a legal resident of Massachusetts (a Proof of Residency Form must be submitted to the Admissions Office); 2.) be enrolled in a degree/certificate-granting program of study; 3.) be maintaining satisfactory academic progress; 4.) have applied for a Pell Grant; and 5.) be able to demonstrate financial need. Recipients of the Massachusetts Board of Regents Tuition Waivers will not pay any tuition costs (associated with Day Division courses only); however, all fees and other related expenses exclusive of tuition must be paid by the student receiving the waiver.

Financial need is determined by the Office of Financial Aid utilizing the federally-approved financial needs analysis system. This system assures that equitability and standardized criteria for determining need will be vigorously applied to each candidate's particular case. The Financial Aid Form (FAF) is the **only** method of application.

SUPPLEMENTAL EDUCATIONAL OPPORTUNITY GRANT (SEOG): a grant for students who would be unable to attend school without this aid. This award is limited to undergraduate students. If you have a bachelor's degree, you are not eligible for this aid.

NATIONAL DIRECT STUDENT LOAN (NDSL): a low-interest, long-term loan awarded by Northern Essex. Loans may not exceed \$2,500 for the first two

years of college and \$5,000 for undergraduate study. The interest rate of 5% begins six months after you cease to be a student. While the repayment period extends up to ten years, there is a minimum monthly payment of \$30.00.

COLLEGE WORK-STUDY (CWS): provides an opportunity for students to work. It is awarded to students with the greatest need. Jobs are on campus and attempts are made to find vocationally related positions. Students are paid every two weeks for the hours they have worked.

NURSING STUDENT LOAN (NSL): long-term, low-interest (6%) loans awarded by Northern Essex to nursing students. Interest begins six months after nursing education is completed. There is a ten-year repayment period with a minimum monthly payment of \$15.00. Funds for this program are very limited and contingent upon continued funding from the federal government.

There are two other need-based programs which Northern Essex does not award, but does administer:

PELL GRANT: a program funded by the federal government. Once you have completed the application process, a Student Aid Report (SAR) will be sent directly to you. If you are entitled to receive a Pell Grant, the award amount will be based on the cost of education, your enrollment status and your eligibility index. All three copies of the SAR must be sent to the Office of Financial Aid before you can receive a grant.

MASSACHUSETTS BOARD OF HIGHER EDUCATION SCHOLARSHIPS: awarded to needy students who are Massachusetts residents. The Massachusetts State Scholarship is for \$300 if a public college is attended. The deadline for filing the Massachusetts FAF is March 1st.

GUARANTEED STUDENT LOAN PROGRAM (HELP Loan): a low-interest, long-term loan available through participating banks. The 9% interest charge will be paid to the bank by the federal government while you are in school and during a six-month grace period after you leave school. A student may borrow up to \$2,500 per year to a maximum of \$12,500 for undergraduate study. Applications are available through local banks.

ADDITIONAL SCHOLARSHIP SOURCES

In addition to the need based aid programs administered by the Financial Aid Office, N.E.C.C. students may wish to apply to one or more of the following aid programs for assistance:

BEVILACQUA SCHOLARSHIP: The scholarship will be awarded annually on the basis of merit to at least two students at Northern Essex Community College. Those receiving the scholarships must have demonstrated involvement in public service and must be enrolled for the Fall semester at N.E.C.C. after having completed at least 24 credits. In addition, they must have maintained at least a 3.0 average and must have resided in Haverhill for at least 3 years. Awards are for one-half tuition. Applications are available in March.

N.E.C.C. FACULTY ASSOCIATION SCHOLARSHIP: Seven scholarships will be awarded by the Faculty Association at the end of the Spring semester. One is the Francis P. Jarvis Memorial Scholarship in the amount of \$250, one is the Charles Foster Memorial Scholarship in the amount of \$150, and five are called Faculty Association Scholarships each in the amount of \$150. **TO BE ELIGIBLE FOR A FACULTY ASSOCIATION SCHOLARSHIP,** a student must have

completed at least one semester in a regular degree-granting curriculum, at N.E.C.C., have a cumulative grade average above 3.0, and be recommended by a member of the Faculty Association.

N.E.C.C. FOUNDATION SCHOLARSHIP: Four N.E.C.C. Foundation scholarships of \$250 each will be awarded at the end of the Spring semester. Each award may be used in the Fall semester at Northern Essex Community College. **TO BE ELIGIBLE FOR AN N.E.C.C. FOUNDATION SCHOLARSHIP,** a student must have completed two semesters in a regular degree-granting curriculum, have completed at least 30 credits with a cumulative grade point average of 3.5 or above, be from the PRIME SERVICE AREA of N.E.C.C., and be recommended by an N.E.C.C. faculty member.

AIR FORCE ROTC SCHOLARSHIPS: These scholarships pay all tuition costs, certain fees, textbook costs and provide \$100 per month as a non-taxable allowance. To be eligible, students must be enrolled in Air Force ROTC, must take the Air Force Officer's Qualifying Test, must pass an Air Force physical examination, and must have a collegiate grade point average of at least 2.5. Scholarships are primarily awarded to students in technical academic majors; however, scholarships are available in the Navigator and Missile Operations career fields regardless of academic major. Application must be made during the freshman year of college.

MASSACHUSETTS NATIONAL GUARD TUITION WAIVER PROGRAM: The Massachusetts Legislature has approved a Tuition Exemption Program for all members of the Massachusetts National Guard at all community colleges, state colleges and Massachusetts universities. The College Officer Recruitment Program now offers a chance to earn a commission along with these tuition assistance benefits. This program offers free tuition; part-time employment, weekends and in the summer; an opportunity to earn a commission as a Second Lieutenant before graduation; an opportunity to train at the Massachusetts Military Academy in Reading, Massachusetts; and a chance to acquire leadership and management skills. Interested students may contact Lt. Anthony Donato at (617) 254-0018 for further information.

HAVERHILL SCHOOL COMMITTEE SCHOLARSHIPS: Each June, the Haverhill School Committee is privileged to award several substantial scholarships to its high school graduates who are studying at the college level. The funds are made available under the following scholarship programs:

Caleb Dustin Hunking College Scholarship
Caleb Dustin Hunking Practical School Scholarship
Caleb Dustin Hunking Foreign Scholarship
Clara Luella Hunking Scholarship for Girls
Herbert A. Chase Scholarship
Nicholas C. Johnson Fund Award
R. Elaine Croston Scholarship Award

CITY OF LOWELL SCHOLARSHIP GRANTS: There will be a total of 8 two-year scholarship grants for eligible students entering freshman classes in September at the participating community colleges. The scholarship award is for \$300 a year, while the student attends the college. Nominations for scholarship awards originate at the approved institutions based on the following criteria: applicants must qualify under the city resident requirement and the entrance standards of the enrolling institution; scholastic achievement as reflected by class rank or class average, College Board scores, National League for Nursing scores, and the financial circumstances of the family and the applicant will be given appropriate consideration.

ADMISSION TO N.E.C.C.



Our purpose as a comprehensive state-supported community college is to offer general educational opportunity to all without discrimination on any basis. While catalogs are helpful, firsthand experience and information is gained by a campus visit. We invite you to call the Admissions Office for referral to a member of the college staff who can assist you in your decision making process. Tours are available, usually led by a student. Every effort will be made to answer your questions and furnish opportunities for you to meet our faculty, staff and students.

Usually, applicants for an associate degree program are high school graduates or the equivalent. This requirement may be waived for adults who show other evidence of their ability to succeed in college level work. The applicant must also satisfy the prerequisites of the curriculum for which application is made. Applicants will be notified in writing of the status of their application.

APPLICATION PROCEDURES - DAY DIVISION

Obtain an admissions application from the college's Office of Admissions or high school Guidance Office

Return the completed application form to the Admissions Office with the \$14.00 (non-refundable) application fee. Please note that out-of-state residents and foreign students must pay the \$25.00 application fee. Make check or money order payable to Northern Essex Community College. The application fee may be waived in cases of financial hardship

Request the high school and any college attended to forward to the Admissions Office an official transcript of grades. Await notification by the Admissions Office of the status of the application

All inquiries, request for forms, or other questions pertaining to admission to the college may be directed in writing to:

Office of Admissions
Northern Essex Community College
Elliott Street, Haverhill, MA 01830

or you may call the Admissions Office at 374-0721, extension 240 or 241.

For information on admission in the Division of Continuing Education and Community Services, see the section on this Division in this catalog.

APPLICANTS WITH DISABILITIES

No pre-admissions inquiry exists for applicants with disabilities. Students with disabilities should notify us of any condition which would require additional assistance in completing their academic program.

RESIDENCY

To be eligible for the in-state tuition rate within the Day Division, students must be residents of Massachusetts. In general, one is considered a Massachusetts resident if one has been in continuous residence in Massachusetts for six months immediately prior to the date of application to the college and has established a domicile in Massachusetts.

There is no residency requirement for the Division of Continuing Education and Community Services.

INFORMATION FOR NEW ENGLAND REGIONAL STUDENTS

Students who are legal residents of any New England state may be eligible for consideration under the New England Regional Student Program. Such students may take advantage of a reduced tuition charge. A student accepted under this program pays the Massachusetts in-state rate PLUS a 25% tuition surcharge fee. Potential students are eligible for consideration if:

- a study program is not offered at an in-state institution

- a study program is offered at both an in-state institution and at one of the Massachusetts community colleges and the latter is closer in traveling time to the students residence.

Northern Essex Community College participates in the NERSP in all academic programs except Nursing, Radiologic Technology and Respiratory Therapy. Additional programs may be limited to Massachusetts residents in the future.

ADMISSION FOR HIGH SCHOOL STUDENTS

Students **who have not yet graduated from high school** may take courses at Northern Essex for credit (on a full-time or part-time basis) as participants in the College Experience for High School Seniors Program. For more information, contact the Admissions Office.

FOREIGN STUDENTS

Northern Essex Community College may accept a **limited number** of foreign students each year. Foreign students whose native language is other than English will be required to take the Test of English as a Foreign Language (TOEFL) and obtain a score of 500 or better. The following are required at the time of application:

- High School Transcript:** All courses completed in high school should be listed. The transcript must be translated into English and certified as an accurate translation of the original document

College Transcript: If applicable and translated into English and certified as an accurate translation of the original document

TOEFL Results: Those applicants whose test results are unsatisfactory for acceptance into a degree program may be accepted for a program called Intensive English as A Second Language. Successful completion of this program may lead to admission to a degree program for which the applicant has expressed an interest.

Certification of Support: in the amount of approximately \$10,000.

Application Fee: \$25.00 must accompany the application form. This fee is non-refundable.

All of the documents listed above must be received by the Admissions Office at least one month prior to the beginning of classes. In general, this date would be the first week of August for the Fall semester, or the last week of December for the Spring semester. Applications received later than these dates cannot be considered.

ADMISSION AS AN UNCLASSIFIED STUDENT

Students may take courses at Northern Essex as unclassified students (students who are not matriculated in a degree program) and as part-time students (students carrying less than twelve credit hours per semester). Unclassified students are not eligible for financial aid. Veterans are eligible for V.A. educational benefits if they are attending college for the first time and for one semester only.

PART-TIME STUDIES

For the convenience of those who may wish to take courses on a part-time basis and minimize commuting time, the college offers a variety of courses each semester which meet once each week. Please contact the Admissions Office for further information.

PRE-PROGRAM STUDY

Pre-program study at Northern Essex Community College is designed to help students prepare for possible future entry into a degree program for which they are not immediately qualified, or which is filled at the time they apply. Acceptance for pre-program study is not to be taken as a commitment for future acceptance into a degree program at the college

Pre-program study allows students to take courses which satisfy the prerequisite for entry into the program of their choice. Students may also begin taking courses which satisfy some of the actual course requirements of their chosen program - if eventual acceptance into that program is granted, the courses which have been completed successfully will be credited toward a degree. Courses in communications, the natural sciences, social sciences, mathematics, liberal arts and elective courses are available for pre-program study.

TRANSFER ADMISSIONS

Transfer credit may be granted for courses earned (with a grade of C or better) at other accredited institutions when the course is applicable to the Northern Essex curriculum in which the student is enrolled. Credit earned at other than accredited institutions will be evaluated on an individual basis. The Director of Admissions will evaluate all credit from other institutions. Grades given for courses transferred from another college are not computed in the QPA at Northern Essex.

ADVANCED PLACEMENT

Students who take Advanced Placement courses and an Advanced Placement Test of the College Entrance Examination Board in secondary school may be awarded advanced placement and credit at the college. Credit is granted on the basis of a three or better grade on the Advanced Placement Test.

CREDIT FOR LIFE EXPERIENCE

The Credit for Life Experience Policy provides the opportunity to award college credit to students who demonstrate that their knowledge and skills are the equivalent to those gained in a course or courses offered by the college.

Students interested in credit for life experience should contact the Registrar's Office for the appropriate forms. The process for obtaining credit for life experience is individualized and may include a challenge examination, one or more personal interviews, preparation of a portfolio, and other detailed evidence that you know those things, or possess the skills, offered in a course for which Northern Essex Community College grants credit.

When the general requirements (and those requirements of the particular department involved in the process) are completed, a decision concerning the awarding of credit for your life experience will be forwarded to you and to the Registrar's Office by the Committee on Credit for Life Experience. The Registrar will enter the credit awarded on your permanent record indicating that the credit has been awarded and that it has been earned by the Credit for Life Experience process.

Credit earned through this process may be applied toward graduation. However, it is the policy of this college **that 24 credits toward graduation must be earned at Northern Essex**. Credit for Life Experience may **not** be substituted for these 24 credits. Any student in a one-year certificate program must earn **at least 12 credits in classroom activity** at Northern Essex Community College.

CLEP CREDIT

Northern Essex Community College grants credit for life experience in certain predetermined areas as measured by the College Level Examination Program (CLEP). Students may apply to the Admissions Office for granting of CLEP credit.

Northern Essex Community College will accept the following CLEP examination credits earned by the achievement of the required passing grade:

GENERAL EXAMINATIONS

EXAMINATION	Credit	Semesters
English Composition (Comp I & II)	6	2
Mathematics	6	2
Humanities	6	2
Natural Sciences	6	2
Social Sciences and History	6	2

SUBJECT EXAMINATIONS

CLEP EXAM	N.E.C.C. EQUIVALENT	Credit	Semesters
Intro Accounting	AC6601/AC6602 Intro Accounting I & II	8	2
Intro Business Law	LW6651 Business Law	3	1
Intro Business Management	Business Elective	3	1
Computer & Data Processing	CT6631 Intro. to Data Processing	3	1
Intro Marketing	MK6678 Principles of Marketing	3	1
Educational Psychology	PS1153 Educational Psychology	3	1
Human Growth & Development	PS1203 Developmental Psychology	3	1
College Algebra & Trig	MA5621 College Algebra & Trig.	4	1
College German	GM4401/GM4402 Intro German I & II	6	2
General Biology	BI5511/BI5514 Intro Botany & Zoology	8	2
General Chemistry	CH5501/CH5502 General Chemistry I & II	8	2
American Government	GV3313 Federal Government	3	1
American History	HI9913/HI9914 U.S. History I & II	6	2
Intro Macro-Economics	EC3323 Macro-Economics	3	1
Intro Micro-Economics	EC3322 Micro-Economics	3	1
General Psychology	PS1101 Intro Psychology	3	1
Intro Sociology	SO3320 Intro Sociology	3	1
Western Civilization	HI9901/HI9902 Western Civilization I & II	6	2

POST-GRADUATE CREDIT

Credit at Northern Essex may be granted for courses which have previously been counted toward a degree which an individual has been granted (whether baccalaureate or associate degree) provided the courses previously taken are applicable to the Northern Essex curriculum in which the student is currently enrolled.

WITHDRAWING FROM THE COLLEGE

A student must complete the appropriate forms if it becomes necessary to withdraw from the college. Information is available in each of the Student Services offices.

READMISSION TO THE COLLEGE

If you have previously attended Northern Essex Community College, you may be readmitted to the college by contacting the Admissions Office.



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STUDENT LIFE



COLLEGE CENTER

The College Center is home base for co-curricular activities at Northern Essex. The following offices, services and activities are located in the center:

- Student Activities Office
- Student Government Association
- Game Room
- Student Newspaper Office
- Student Radio Station
- Counseling Office
- Office for Students with Disabilities
- Veterans Club
- Placement and Career Services
- Student Health Service
- Cooperative Education Office
- Study Lounge/Television Lounge
- College Bookstore
- College Cafeteria
- Study Lounge for Students with Disabilities

In addition to the offices, services and activities above, the College Center hosts coffeehouses, small concerts and full-length feature films.

STUDENT ACTIVITIES OFFICE

The Student Activities Office provides a comprehensive program of extra-curricular events for all Day Division students. Concern for the extra-curricular needs of the community college student is an ongoing priority in the Student Activities Office.

STUDENT I.D. CARD

All Day Division students are required to carry an I.D. card. This means of identification is necessary for library rentals, admittance to the College Center gameroom, and to establish eligibility for student discounts at athletic contests and off-campus activities. Students may have I.D. photos taken at the Student Activities Office during posted times each semester.

STUDENT GOVERNMENT ASSOCIATION

Northern Essex provides a system of student government through which students can learn democratic principles, parliamentary procedure, leadership styles and skills, decision-making, group dynamics, the complexity of interorganizational relationships, change-agentry, long and short-term planning, representation of constituencies and financial planning.

Each semester students are assessed an activity fee. This fee entitles individuals to membership in the Student Government Association which is represented by a Student Council consisting of 12 elected members. Seven Student Council members are elected by the senior class in Spring elections, and five are elected by the freshman class in Fall elections. The Student Council elects a senior as President and a freshman as Vice-President. As the governing body, the Council participates in the formation of student organizations and becomes involved with the budgeting and expenditure of the Student Activity Fund.

CO-CURRICULAR ACTIVITIES

The Student Activities Program, funded by the Student Activities Fund, is designed to supplement, complement and interact with academic studies. Through a network of

staff interaction, faculty advising, clubs, teams and other groups, students can share ideas and interests, make choices, interact and communicate, socialize, form relationships and gain confidence and self-awareness.

The program offers an active intramural and recreation program. Intramural courses are scheduled during the free noon hour on Monday, Wednesday and Friday. A varied list of activities includes 3-on-3 basketball, racquetball, flag football and dancing. The recreation program provides opportunities for students to participate in trips, lectures and demonstrations on and off campus.

The Program Board, made up of members of the Student Council, sponsors a regularly scheduled entertainment series which brings groups and individual entertainers to the campus.

The Student Activity Program supports student publications and more than twenty-five clubs ranging from dance, theatre, photography and contemporary affairs, to newspaper reporting, radio broadcasting, weightlifting, skiing and karate. All specialized groups and clubs are approved by the Student Council. Requirements for approval include a defined name and purpose, a designated faculty advisor, active membership, and elected officers to lead and conduct the group's business.

CAMPUS GUIDELINES

Northern Essex Community College supports a code of student rights and responsibilities designed to provide an atmosphere in which sound intellectual and academic development is possible. A detailed statement of student responsibilities and rights is found in the Student Handbook.

STUDENT GRIEVANCE PROCEDURE

Purpose:

The primary purpose of this procedure is to secure prompt and equitable resolution of a grievance. Customary channels of communication shall be used wherever, feasible, in seeking clarification of questions of concern, before the grievance procedure is utilized. Every effort shall be made to maintain confidentiality of each level of this procedure.

Procedure:

Level One: **STEP ONE** - The grievant shall first present his/her grievance orally and informally to the person against whom the grievance exists. This should be done in a reasonable period of time, with thirty (30) calendar days from the date of the grievance action or from the date that the grievant knew of the grievable act.

STEP TWO - If the grievance is not resolved within five (5) working days, the grievant may present in writing the allegations supporting the grievance, including all the known facts, to the person against whom the grievance is directed. The person against whom the grievance is directed must respond

in writing within five (5) working days to the grievant.

STEP THREE - If the grievance is not resolved within the said five (5) working days, the grievant may present it in writing to the supervisor of the person against whom the grievance is directed. The supervisor must respond in writing within five (5) working days, with his/her decision to the grievant.

STEP FOUR - If the grievance is not resolved within the said five (5) working days, the grievant may present a formal claim in writing, including all the supporting statements and evidence, to the College Student Grievance Committee. Within ten (10) working days after receiving the written grievance, the committee shall state its decision in writing, with all supporting reasons and evidence to the grievant and the person against whom the grievance is directed.

Level Two: Within five (5) working days after receiving the decision from Level One/Step Four, the grievant may appeal the decision to the President of the College. This appeal shall be in writing and shall be accompanied by the original complaint and copies of all previous supporting statements, evidence and decisions. The President shall evaluate the evidence and make his/her decision, in writing, within ten (10) working days after receiving the appeal, to all concerned parties. The decision of the President is final and binding.

More information on this procedure is available in the office of the Dean of Student Services.

PUBLICATIONS

No student or group of students in connection with any publication, public performance or social activity shall use any name or designation that implies a relationship with the college without the sanction of the President of the College or the officers he designates.

ALCOHOL/DRUGS

The college complies with all state and federal laws governing the possession, use and sale of alcohol and other drugs, and other illegal substances on campus and at all campus-sponsored activities.

HOUSING

No housing facilities are provided by or supervised by the college. Students who wish to move into the immediate college area may rent housing; the Director of Student Activities maintains a list of available housing. Students are expected to respect the rights of the people from whom they rent housing and conduct themselves courteously.





GETTING ADVICE AT N.E.C.C.

COUNSELING

Northern Essex has a staff of professional counselors who understand the problems of the commuting student, the demands of academic life, and the uncertainties students may feel about educational planning, the details of transferring to another college for further study, and selecting an appropriate career. The counseling staff can help you with information and advice in the following areas:

Career Counseling: individual appointments and group workshops to assist you in choosing, changing or preparing for careers

Degree Requirements: help with planning a course schedule which will meet the requirements of your degree program

Personal Problems: the counseling staff is trained to help you solve your personal problems, or to refer you to someone else who can help.

Walk-in counseling is available, or you may make an appointment in advance. All counseling is confidential. Counselors are located in Room F-118 of the College Center and in the Continuing Education Office, Room B-204 of the Applied Science Building.

ACADEMIC ADVISING

Each student is provided with an advisor, usually a member of the college faculty, who will help the student utilize the resources of the college and the community to achieve academic, career and personal goals.

VETERANS INFORMATION

Anyone who is a veteran (or eligible dependent) and wishes to obtain information about educational benefits, veteran work-study program and general services can contact the Financial Aid and Veterans Affairs office or the Registrar's office.

Those individuals who apply to the college for admission and are accepted into a program must initiate veteran's certification for educational benefits at the Registrar's office. One must qualify for one of the federal programs, be enrolled on at least a half-time basis, and have a notarized copy of the DD214 available for school use.

In addition, many veterans who are Massachusetts residents (enlisted at an in-state location) may qualify for tuition exemption in the Day Division and/or in the Division of Continuing Education and Community Services. Information about the veterans' tuition exemption program is also available at the Financial Aid and Veterans Affairs office or the Registrar's office.

Veterans or eligible dependents must be certified at the beginning of each semester. Veterans Action Forms, which initiate or continue certification, are available in the Registrar's office. General assistance and counseling is also available through the staff of the Counseling, Student Activities and Continuing Education offices.



OFFICE FOR STUDENTS WITH DISABILITIES **(Formerly Handicapped Services Office)**

Room F-120, College Center

Telephone: (617) 374-0721, extension 267 (voice and messages)

(617) 373-1720 (TTY/TDD)

The Office for Students with Disabilities (OSD) exists to help the college meet the special needs of students with physical, sensory, emotional and learning disabilities, and chronic diseases.

OSD provides such services and auxiliary aids as are necessary to enable students with disabilities to participate in all college programs and activities. This assistance is designed not to give any advantage, but rather to eliminate the competitive disadvantage often encountered by the person with a disability.

All public buildings on campus are equipped with ramps, elevators and accessible restrooms. Some of the services routinely provided by OSD include sign language or oral interpreters for people who are deaf, tape-recorded books for people who are blind and scribes for people who are unable to write. Supportive counseling services are provided by a staff of experienced, sensitive and caring academic, career and personal counselors.

OSD maintains a close working relationship with the various rehabilitation agencies, often serving as an advocate for students. The office works with individual instructors as necessary to help them meet the particular needs of each student. Preferential scheduling, parking and other accommodations are made as appropriate. Facilities include an OSD Lounge and Academic Assistance Room. Students in the Division of Continuing Education and Community Services are encouraged to call the Office for Students with Disabilities during the day hours, 8:30 A.M. to 4:30 P.M.

HEALTH SERVICES

The Student Health Service is staffed by a Registered Nurse under the direction of the school physician. The Health Service is open daily, Monday through Friday, 8:30 A.M. to 4:00 P.M. in Room F-135 of the College Center. The physician holds regularly scheduled clinic hours each week.

The Health Service provides first aid, medications, immunizations, treatments, counseling, referrals to a variety of agencies in the surrounding communities, and follow-up as needed. All services provided, including physician services and supplies, are free of charge to students. Gynecological services are available including Pap smears for a nominal fee. Care for chronic medical problems and extensive laboratory, medical and x-ray work-ups are not provided by the Health Service. Assistance will be given with referrals to outside agencies or medical specialists as needed in such cases; the student is responsible for expenses incurred.

A major emphasis of the Health Service is preventive health education. The Director of Student Health Services coordinates on-going programs in Health and Fitness Awareness held each semester, as well as a lecture series on holistic health, wellness and crises intervention, and an annual Health Fair including health screenings, health education, referrals, and follow-up at no cost to the consumer.

The campus nurse is available during office hours to respond to emergencies. All emergencies should be reported to the switchboard operator who will page the nurse. At other times, and for serious illnesses or injuries, a community-based ambulance service is used for transportation to nearby area hospitals.

It is the student's responsibility to complete a form describing general health, health history and any supportive services that may be required before matriculation.

Student Health Insurance

All students in the Day Division are required to carry the basic Student Health Insurance plan. This plan covers events occurring while the student is on campus or is traveling to and from the college on days when classes are in session only. Every accident must be reported to the college nurse. Claim forms for medical and x-ray

expenses, etc. are available at the Health Service and must be submitted by the student in order to realize insurance benefits.

Students are encouraged to elect the Supplemental 24-Hour All Accident and Sickness Insurance Medical Plan at a nominal additional premium. This extended plan may be designed to include other family members also. Enrollment period is the first thirty (30) days of each semester. This extended plan is especially important for students who will become 19 years of age during the college year and may not be eligible for coverage under their parents' insurance plans.

PLACEMENT OFFICE

The Office of Cooperative Education & Placement assists both graduates and undergraduates in career planning and in obtaining information about professional career employment. The goal of this office is to provide students with the kind of career and employment information needed to understand the implications of their educational and vocational decisions.

This office will assist students in obtaining full-time or part-time employment while attending college. Graduating students will be assisted in obtaining information concerning current job opportunities commensurate with their academic preparation, interests, capabilities and career goals. The major services offered to all and graduates include:

Job Listing and Referral Service
Recruiting Programs for Employment Opportunities
Job Search Assistance
Career Resource Library
Credentials Service
Career Days and Job Fairs

All students are encouraged to visit and use these services. Information concerning services can be obtained at the Office of Cooperative Education and Placement, Room F-111 in the College Center. **NOTE:** The Career Resource Library maintains catalogs from a number of colleges and universities. These catalogs may be used by those seeking information on other schools and other programs.

JOB MATCHING CENTER

Division of Employment Security

The Massachusetts Division of Employment Security (D.E.S.) has opened an office on campus. The office, which is located downstairs in the College Center, will be staffed on a full-time basis by an employment counselor.

The D.E.S. offers job matching services through its Job Bank which provides computerized information on professional, statewide and local job listings. This service will be available on a daily basis.

D.E.S. staff will be coordinating its efforts with those of the college's Office of Cooperative Education and Placement.

ACADEMIC SUPPORT



ACADEMIC SUPPORT CENTER

The Academic Support Center was created to meet the needs of individuals who desire a post-secondary education but who may not be fully prepared to achieve this goal. Students find themselves in this situation for a number of reasons:

- Academic unpreparedness and the need for skills improvement
- Uncertainty with regard to abilities, direction, career or vocational goals
- An unrewarding high school experience
- Lack of a high school diploma
- Unfamiliarity with the demands of an educational environment.

The Academic Support Center has a threefold purpose:

- To assist students in acquiring the skills to be successful at Northern Essex
- To support the academic divisions of the college in their delivery of educational services
- To provide access to the college to those who may otherwise be deprived of such an advantage.

Located on the second floor of the Classroom Building, the Center is made up of six units: the Skills Assessment Center, Writing Center, Math Center, Reading Center, English as a Second Language Cluster, and the Discovery Cluster. Through these centers an individual's skills may be assessed, each student may be supported personally with counseling, and each student may develop the basic skills necessary for a successful college career.

Counseling in the Center: Academic Support Center personnel understand that skills development is not an easy task nor can it be accomplished in a vacuum. Every effort is made to meet individual student need, intellectual and emotional, throughout the learning process, and to make learning as relevant as possible.

A part-time counselor is available in the Center to support students in using their strengths to deal with the many problems that arise as people begin college and plan careers. Individuals are welcome to drop in anytime during the day to discuss their concerns.

Skills Assessment Center: The primary goal of this center is to assist students in becoming aware of their present ability levels in the areas of reading, writing and mathematics. This awareness is crucial for insuring future success in a college environment.

Students are encouraged to make arrangements to take advantage of the following as appropriate:

- testing of skills
- personal analysis of academic skills
- learn about available developmental courses
- high school equivalency testing

Students who are interested in knowing and improving their academic skills are invited to visit or call the Skills Assessment Center, located in Room C-210 (extension 263), at any time during the school year.

Reading Center: The purpose of the Reading Center is to assist individuals in developing effective reading and study skills. To accomplish this, all students coming in to the Center receive an assessment of their strengths and weaknesses. An individualized program of study is then developed. Often, this individualized study plan is incorporated within one of the three credit course options offered by the Center to complement and supplement this work. Each student receives ongoing personal attention from the Reading Center staff while having the opportunity to interact with fellow students. Assistance on a drop-in or referral basis is also provided for students with specific requests. For more information contact the Reading Center at extension 253, Room C-208.

Writing Center: This center helps students who need to improve their ability to write effectively. It offers two courses for credit: Basic Writing, a three-credit course designed for students who lack the writing skills necessary for entering English Composition I; and Spelling Laboratory, a one-credit course providing individual help in spelling. Also, any student may drop in or be referred for non-credit assistance with any writing problems. All students working in the Writing Center receive a diagnosis of writing problems, a program of work and tutorial assistance to help them overcome those problems, and continual evaluation of their progress. For more information, call the Writing Center at extension 252, Room C-209.

Math Center: This center provides services to students ranging from basic arithmetic to advanced topics in calculus. Students may request initial testing to

determine their strengths and weaknesses for proper placement in the developmental courses of Basic Math and Basic Algebra, or for the general math course offerings. Microcomputers are used in all Day Division algebra sections to assist students in developing computer familiarity skills while refining algebraic applications. The staff of the Center pride themselves in being especially sensitive to individual needs.

Problems such as test-taking and math anxiety are addressed on an individualized basis. The services are available to all students and members of the community on a drop-in basis. For more information contact the Math Center at extension 225, Room C-211.

LEARNING RESOURCES CENTER

The Learning Resources Center at Northern Essex provides supportive educational resources and programs, print and non-print (books, records, films, filmstrips, magazines, newspapers, etc.). It acts as a catalyst in the learning process through its selection, development, construction, instruction, organization and evaluation of simple and complex learning materials. And, it acts as a community agent through its open access policy whereby the services and facilities of the LRC are available to all residents of the Merrimack Valley.

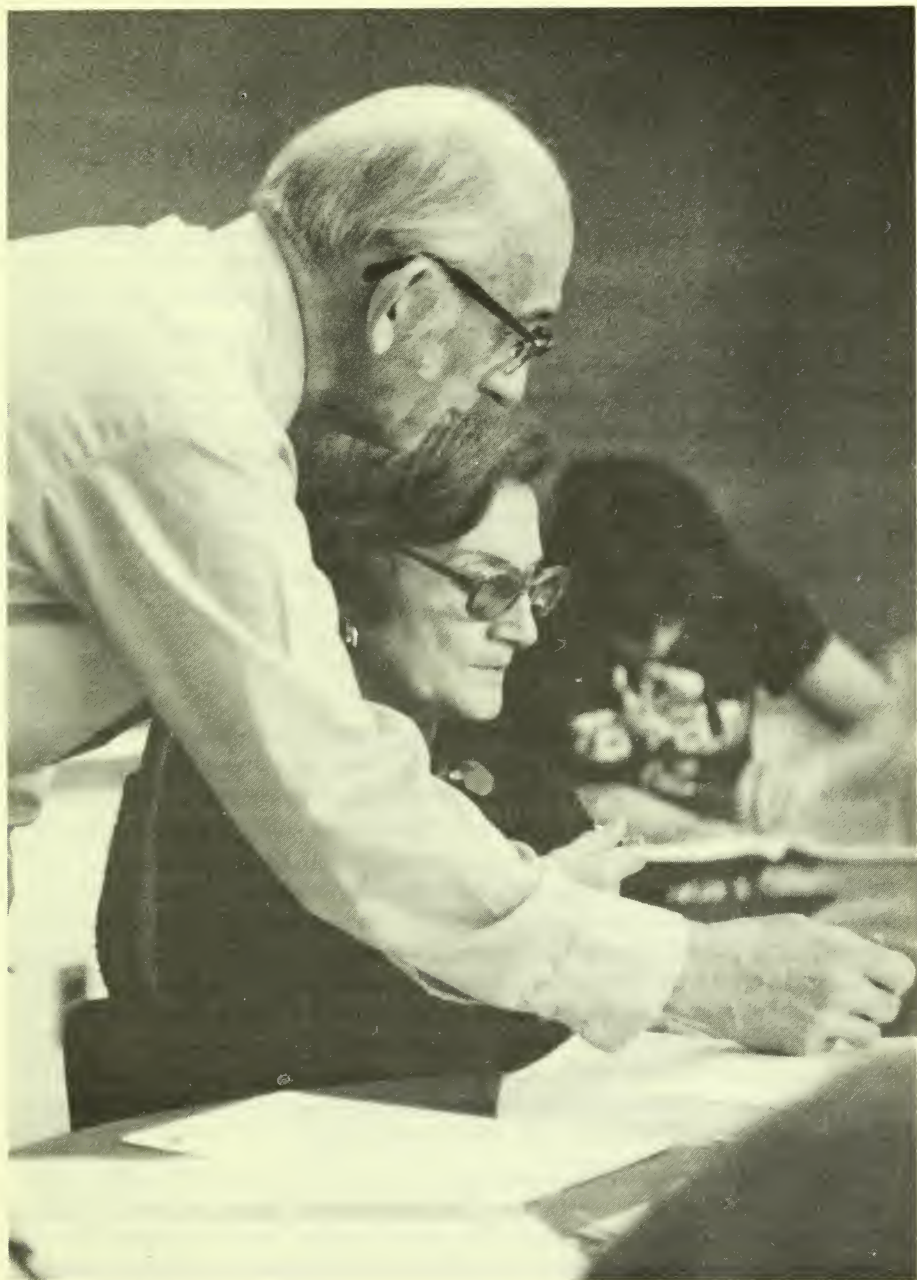
The LRC has a large collection of books, magazines and newspapers of scholarly and general reading interest. It also offers an extensive collection of audiovisual materials such as films, videotapes, filmstrips, records, slides, transparencies and audiotapes, as well as the equipment students and faculty need to use them.

The Instructional Media Center has facilities to produce videotapes, slide shows and other materials. Its television unit records off-air programs and plays them back over a campus-wide closed-circuit system. Original tapes are made both on location and in its 3-camera color studio. The college is also a point of origin for live and pre-recorded programs played over the Haverhill cable TV system.

Specialized educational and instructional resources and programs are available to students with visual disabilities and/or learning disabilities. Students and faculty are able to use other Massachusetts public college and university libraries, as well as local area libraries. Also, additional educational resources are available for student use through the library's involvement in consortia such as the Merrimack Valley Interlibrary Cooperative and Essex County Cooperating Libraries.

Professionally trained staff are on duty in the evening to assist continuing education students. Students registered in the Division of Continuing Education and Community Services, whether enrolled in a credit or special interest course, have full privileges for services and resources - reference assistance, interlibrary loan, assistance in research, etc. Class orientations are given in the use of the LRC and the staff is more than willing to give individualized help to any student who has a need to learn how to use a library.

When classes are in session, the LRC hours are 8 A.M. to 9:30 P.M., Monday through Thursday and 8 A.M. to 5 P.M., Friday.



SPECIALIZED STUDY OPPORTUNITIES

DISCOVERY PROGRAM

The Discovery Program is a one-semester-long, college-level course of studies with special workshops and unique activities. It is particularly designed for students who need individual assistance and support as they begin their college education. Course work is tailored to meet individual needs and students can set their own pace, working as full or part-time students. Many courses successfully completed in the Discovery Program are transferable to other programs offered by the college.

In addition, workshops are also offered on topics such as time management, values clarification, math anxiety and life-work planning.

THE ESL PROGRAM

The ESL (English as a Second Language) Program is primarily for area residents whose native language is not English, and who need to increase their proficiency rapidly through concentrated study. A limited number of non-residents will be accepted each term strictly on a space available basis.

The program has been developed to provide students with intensive ESL instruction at levels one and two, i.e., (18 weeks, 450 instructional hours, no credit) and semi-intensive at levels three and four, i.e., (16 weeks, 7 hours/week, 3 college credits). All courses involve listening, speaking, reading and writing in English. The lower levels emphasize sentence structure and basic conversation skills, while the upper ones concentrate on reading comprehension, essay writing, and increasing the student's general fluency with educated American English.

All incoming students are given a placement test to determine which course will be most appropriate for them. Students in upper level ESL courses may also take regular courses on a limited basis in subjects that interest them.

The ESL program is not a degree program; its purpose is to prepare people to enter college degree programs as soon as possible. When students have completed the ESL program, they may apply for transfer into a specific college degree program. Special academic and personal counseling is available to ESL students in English and in Spanish.

NOTE: Credit for Life Experience is not offered by the college for any of the ESL courses. ESL courses are Liberal Arts electives and prepare students for entrance into Basic Writing or English Composition I.

G.E.D. PROGRAM

Working in conjunction with the college's Division of Instructional Development, the Division of Continuing Education and Community Services offers the General Educational Development (G.E.D.) preparation course and testing program. Northern Essex is an official G.E.D. testing center and many hundreds of area citizens have qualified for high school equivalency diplomas at the college.

The broadly based G.E.D. preparation course reaches out to locate people who need a high school equivalency diploma, motivates them to prepare for a G.E.D. test, suits the preparation material to the needs of the individual and provides extensive personal and employment counseling.

COOPERATIVE EDUCATION

Cooperative Education has been designed to provide students with either full-time or part-time jobs related to their academic program and/or career objectives.

The courses offered are founded on the educational philosophy that you learn more effectively when you learn by doing, through integrating your in-school instruction with the practical experience of supervised on-the-job training. Students are usually paid for the work performed while participating in Co-op Ed.

Basically, Cooperative Education operates as follows: students are referred to the Office of Cooperative Education and Placement where they make application and are interviewed by a member of the Co-op staff. Students are encouraged to participate in special workshops on career development, resume writing and interview techniques. Students may elect Cooperative Education prior to their successfully finding a co-op position; however, it is recommended that a job be secured prior to actual registration for the co-op course. Once employed, students must list objectives to be accomplished during the semester at the work site. The work site supervisor assumes the role of adjunct instructor, using the employing organization as a learning laboratory. Coordinators from the college will visit the worksite during the semester and will receive help from the work-site supervisor in the evaluation of the student's progress.

Generally, students will be accepted into the course only after they have completed approximately one-half of their academic work at Northern Essex or have developed sufficient skills or knowledge to make the off-campus work experience truly meaningful.

HIGH SCHOOL STUDENTS

Students who have not yet graduated from high school may take courses at Northern Essex for credit (on a full-time or part-time basis) as participants in the College Experience for High School Seniors Program. For more information, contact the Office of Admissions.

AIR FORCE ROTC PROGRAM

Through a crosstown agreement with the University of Lowell, students may participate in the Air Force Reserve Officer Training Corps (AFROTC). Registration for AFROTC is the same as registration for most other college courses. ROTC class schedules and additional information may be obtained by calling Air Force ROTC, Detachment 345 at the University of Lowell (617) 459-9301.

The program is designed to qualify for commissions those men and women who desire to serve in the United States Air Force and to provide an education which will develop skills and attitudes of vital importance to professional Air Force officers. The Air Force ROTC program is divided into two phases: 1.) the General Military Course (GMC) and 2.) the Professional Officer Course (POC).

Students may elect to enroll in the four-year AFROTC program or the two-year AFROTC program. Students electing the four-year program will take the General Military course during their freshman and sophomore years. The GMC consists of one hour of class and one hour of Leadership Laboratory per week. Students in the four-year program attend four weeks of Field Training during the summer between their sophomore and junior years. As members of the program they are eligible to compete for AFROTC scholarships. For acceptance into the Professional Officer Course, students enrolled in the four-year program must pass a physical examination, an officer qualification test, and possess an acceptable academic record. The POC consists of three hours of class and one hour of Leadership Laboratory per week.

To qualify for enrollment in the two-year program, students must have two academic years remaining at either the graduate or undergraduate level or a combination of these levels. They must also meet certain physical standards, pass an officer qualification test, and possess an acceptable academic record. They must also successfully complete a six-week Field Training course before they can be accepted into the POC.

Uniforms, equipment and textbooks which are required for AFROTC will be supplied. Students in the POC receive a monthly subsistence allowance of \$100.00. Competitive scholarships are available for a limited number of cadets in the program. Students who successfully complete the POC are commissioned as Second Lieutenants in the United States Air Force Reserve and serve on active duty in the Air Force in a specialty which is as closely related to their academic training as is consistent with the needs of the Air Force.

All GMC scholarship cadets must satisfactorily complete a course in English composition within two years of the scholarship activation. In addition, scholarship cadets must satisfactorily complete one term of a major Indo-European or Asian language prior to commissioning. All cadets, both scholarship and non-scholarship, must successfully complete a course in mathematical reasoning prior to commissioning.

Field Training: AFROTC Field Training is offered during the summer months at selected Air Force bases throughout the United States. Students in the four-year

program participate in four weeks of Field Training, usually between their sophomore and junior years. Students applying for entry into the two-year program must successfully complete six weeks of Field Training prior to enrollment in the Professional Officer Course.

The major areas of study in the four-week Field Training program include junior officer training, aircraft and aircrew orientation, career orientation, survival training, base functions and Air Force environment, and physical training. The major areas of study included in the six-week Field Training program are essentially the same as those conducted at four-week Field Training and in the General Military Course including Leadership Laboratory.

Leadership Laboratory: Leadership Laboratory is taken an average of one hour per week throughout the student's period of enrollment in AFROTC - 60 hours in the General Military Course and 60 hours in the Professional Officer Course. Two-year program students participate in the latter only. Instruction is conducted within the framework of an organized cadet corps with a progression of experiences designed to develop each student's leadership potential. Leadership Laboratory involves a study of Air Force customs and courtesies; drill and ceremonies; career opportunities in the Air Force; and the life and work of an Air Force junior officer. Students develop their leadership potential in a practical, supervised laboratory which typically includes field trips to Air Force installations throughout the United States.

BRADFORD COLLEGE CROSS REGISTRATION

Full-time Day Division students, enrolled at Northern Essex Community College for 12 credits or more, may register for no more than one course per semester at Bradford College, through a cooperative cross-registration arrangement.

Enrollment at Bradford for N.E.C.C. students is based on a seat-available basis. In addition, students can register only for courses that apply to or fulfill one of their N.E.C.C. program requirements. Tuition is free, with the exception of fees for specialized courses. Students are not normally allowed to register for a course at Bradford College if the equivalent course is offered or in progress at this college. Additional information and cross-registration forms are available at the Registrar's Office.


NECCUM CROSS REGISTRATION

Students enrolled at Northern Essex Community College may cross-register at any of the eight other educational institutions which form the Northeast Consortium of Colleges and Universities in Massachusetts (NECCUM). The NECCUM members are Endicott College, Gordon College, Merrimack College, Middlesex Community College, Montserrat School of Visual Art, North Shore Community College, Salem State College and the University of Lowell.

Students enrolled as full-time Day Division students at N.E.C.C., with a grade point average of 2.0 or above, may take one course a semester at any NECCUM college on a seat-available basis. First semester freshmen are excluded except for students enrolled in ROTC. Tuition is free with the exception of lab fees and fees for specialized courses. Forms and additional information on NECCUM cross-registration are available in the Registrar's Office.







CONTINUING EDUCATION

DIVISION OF CONTINUING EDUCATION & COMMUNITY SERVICES

The Division of Continuing Education and Community Services provides educational opportunities to everyone interested in college study on a part-time basis. The division serves a variety of age groups in the community, with a central focus on the learning and interest needs of adults. The primary goal of the division is to help people improve existing skills or learn new ones and grow in scope of interest, in understanding and in personal satisfaction.

Continuing Education provides an answer to the growing need in our modern world for life-long education for everyone - what people need, when they need it. There are no requirements for admission - the division is open to all. People can matriculate (enroll) in a degree program, take a course because it appeals to them or develop a technical skill for a better job. They can take a developmental course to help them evaluate their educational potential, choose a special interest course, take a telecourse in their own homes or participate in workshops and seminars.

The Division of Continuing Education and Community Services provides low cost, relevant education for all. The program is planned to respond quickly and accurately to the needs of the community. The division provides an alternative entry into Northern Essex for people seeking a part-time educational program.

STANDARDS

The difference between college study in the Division of Continuing Education and Community Services and college study in the Day Division at Northern Essex is the approach students take toward their educational goals. Day Division students make college a full-time job. In the Division of Continuing Education and Community Services, most students are fitting education into already busy schedules at home or on the job.

Standards and requirements, course content, curriculum requirements, course hours, credit hours earned, and counseling services in this division are, for the most

part, identical to those in the Day Division. The only exception to the above is the slate of non-credit special interest courses offered by the division which are not graded.

COUNSELING

Counseling is available at the registration center throughout the registration period. New students and students not certain of their educational direction are particularly urged to make use of the counseling service for help in selecting the courses best suited to their individual needs and goals.

The Counseling Office offers programs throughout the year to serve the needs of continuing education students. Counseling (personal and academic) is available daily during each semester, and in the summer. Anyone interested in continuing his or her education is free to use the counseling services at the college. **It is not necessary to be a student at Northern Essex to talk to the college's counselors.**

FACULTY

The faculty of the Division of Continuing Education and Community Services is drawn largely from members of the Northern Essex faculty, supplemented by selected professors from other colleges. From time to time, recognized community leaders with specialized skills join the staff.

FACILITIES

Most of the facilities of the college - the library, classrooms, the laboratories, the faculty, the counselors - are available to students in the Division of Continuing Education and Community Services.

In addition, the college offers course work, counseling and registration services at extension campuses in Lowell at the University of Lowell, in Andover at the Greater Lawrence Technical School, and in Newburyport at Newburyport High School.

BROCHURE

A comprehensive brochure listing the courses and services of the Division of Continuing Education and Community Services is published three times annually, prior to the fall semester, spring semester and summer session. Registration forms, registration dates and times, class schedules and a calendar are included. These brochures are currently distributed to all homes in the Merrimack Valley and southern New Hampshire. In addition, other brochures and pamphlets are published to announce specific events and special sessions.

ACADEMIC SERVICES

Credit courses are offered in a wide variety of subject areas. They may be taken individually or as part of a certificate or associate degree program. Associate degree programs are available in the Division of Continuing Education and Community Services in the Liberal Arts, Business, Health Professions, Human Services, Office and Business Education and in the Technologies. A modular program in Business Management is structured to allow the students to study on a part-time basis and still complete associate degree requirements in two years.

In addition to the associate degree programs available in this division, students may do substantial course work in other degree programs offered by the college's Day Division. Depending on the number of courses taken throughout the year, an associate degree can be achieved in two to four years.

Northern Essex, through the Community College of the Air Consortium, offers courses via television in a number of academic disciplines each semester. Telecourses add a new dimension in convenience to the educational opportunities available at the college. Telecourse students attend class in their own homes and at their own convenience, since most telecourse segments are broadcast more than once. Telecourse students supplement at-home viewing with assigned readings, workbooks, telephone conferences with the instructor and regularly scheduled, voluntary seminar discussions. An orientation session is held prior to the beginning of each telecourse.

Developmental courses are offered in basic reading, writing and mathematics for those students who need them preparatory to entering a degree program. Cooperative education courses are also offered.

A diverse slate of non-credit, special interest courses is offered each semester in the Division of Continuing Education and Community Services. A brochure is sent to residents of the Merrimack Valley at least three times yearly which describes in detail the offerings of the Division. Offerings include a variety of topics such as developmental courses, English as a second language, GED high school equivalency preparation, recreational/leisure activities and physical conditioning, enrichment in the arts, self-development, and courses in the health professions (C.E.U. credit is available).

The Division's community service program is designed to reflect effectively the interests of the community and as such responds to the needs of both individuals and groups. The Division acts as a resource for anti-poverty programs, neighborhood groups, community organizations and agencies, schools, business and industry by offering workshops, conferences, individualized courses and training packages. The Division also administers a variety of C.E.T.A. (Comprehensive Employment and Training Act)-funded programs and sponsors conferences, workshops, grass roots organizations and counseling for women.

PROCEDURES

Admissions: There is no official application form for admission to courses in the Division of Continuing Education and Community Services. Anyone may register for any course offered in the division. There are no general requirements for admission. A high school diploma is not necessary for registration. Students who wish to matriculate (enroll) in an associate degree program, however, must meet the admission requirements of the college.

Registration: There are several methods of registration in the Division of Continuing Education and Community Services:

Registration by Mail: Students are encouraged to register by mail as soon as they receive the semester brochure currently mailed to all homes in the Merrimack Valley and southern New Hampshire. A registration form is included in each brochure. Complete the form and return it to the college with a check or money order payable to Northern Essex Community College for tuition and all fees.

On-Campus Registration: An on-campus registration period is scheduled preceding the beginning of classes for each semester. Students may come to the college at that time, talk to counselors, complete the registration form and pay tuition and fees.

Gold Card Registration: A Gold Card registration session is scheduled immediately following the regular registration period for each semester. At that time, elders who are 60 or older may register for credit and special interest courses on a seat-available basis without tuition charge. (Nursing courses are exempted from Gold Card registration.) The registration fee must be paid by Gold Card students.

Extension Campus Registration: Students may register at auxiliary campus locations at registration periods prior to the beginning of classes for courses held at a particular auxiliary campus only. Students may also register for classes to be held at auxiliary campuses at the main campus.

Other Registration Sites: Registration periods may also be scheduled at convenient central locations in the community. These sites are announced in the semester brochures.

Fees: Refer to the section on fees in this handbook for information on Division of Continuing Education tuition charges and other fees. Financial aid and tuition waivers are available for continuing education students - refer to the section on financial aid in this handbook for detailed information.

Auditing: Courses for audit are available. Students who audit courses register as usual and pay the regular tuition and fees, but take no examinations, receive no grades and earn no credit hours.

Drop/Add: Students who wish to withdraw from, add or substitute a course must file a **DROP/ADD FORM** with the Registrar. Forms are available in the Continuing Education Office and in the Registrar's Office. It is not sufficient to tell your instructor that you are dropping a course. Any student who does not officially withdraw from a course will receive a failing grade for that course.

Classes: Most classes in the Division of Continuing Education and Community Services are held evenings, Monday through Thursday. The fall and spring schedule of classes corresponds roughly to the college's academic calendar. Recognized holidays are observed.

Steps to Matriculation: Students who apply for admission to degree status (matriculation) should take the following steps:

Obtain and complete the application form for matriculation to degree status available in the Continuing Education Office and in the Registrar's Office

Submit a high school diploma or equivalency certificate

Submit transcripts of schools and colleges previously attended.



TRANSFER AFTER N.E.C.C.

Full transfer credit toward the baccalaureate degree is granted by most senior institutions for all courses in the following Northern Essex curricula:

Liberal Arts
Engineering Science
Business Education
Business Transfer

There are some courses at the college intended for two-year associate degree curricula which are designed for students who are preparing for direct entry into business or industry. These courses are college-level, but are not intended to meet the objectives of a baccalaureate program and, therefore, may not be transferable.

It is the responsibility of each student to select courses at Northern Essex that will be acceptable for his chosen field of study at the senior institution of his choice. Careful study of the catalog of that institution will answer most questions. Students should request from the registrar of the senior institution they select a copy of that college's catalog. Counselor's at Northern Essex are readily available to help students work out transfer requirements.

CAPSTONE AGREEMENT

Capstone transfer agreements exist between N.E.C.C. and the University of Lowell and N.E.C.C. and Bradford College for transfer from specific programs at Northern Essex into specific programs at these senior institutions. For further information, contact the Admissions Office.

COMMONWEALTH TRANSFER COMPACT

On Monday, May 13, 1974, the presidents of the five sectors of public higher education in Massachusetts signed the following policy which became effective in the fall of 1974. This policy concerns all students who are transferring from a two-year Massachusetts State community college to a four-year Massachusetts State college or university:

An associate degree will be transferred as a unit (provided you meet the requirements for admission) and applied towards a baccalaureate degree as the equivalent of sixty (60) credit hours of undergraduate college-level study if the following courses are included:

6 credits of English/Communications

9 credits of Behavioral/Social Science (Social Science courses include anthropology, psychology, sociology, history and government)

9 credits of Humanities/Fine Arts (Humanities courses include foreign languages, communication, philosophy, art, music, literature and religion)

9 credits of Mathematics and/or Sciences

Remaining credits at the college level.

The 60 credits that are granted will, under Compact policy, include D grades. **Most colleges will not, however, grant credit for a D grade if it was earned in a course required for the major.** The receiving institution is required to apply D credit toward a major only if it does so for students who originally enrolled in that institution as freshmen.

Furthermore, all associate degree holders accepted for transfer under this Compact will be subject to no special requirements beyond those specified as major department and/or graduation requirements for students who originally enrolled in that institution as freshmen.

Therefore, if you plan to transfer to a Massachusetts State college or university, it is recommended that you complete your program and receive an associate degree, and that you include in your program of courses the core courses listed above as requirements for the Compact transfer.

If you have any questions or are treated unfairly when you transfer under the Commonwealth Transfer Compact, contact the Counseling Office in the College Center.



ACADEMIC STANDARDS

ACADEMIC REGULATIONS

Academic standards have been established at Northern Essex Community College to help students attain understanding, competence and excellence. Standards apply to all students enrolled in both the Day Division and the Division of Continuing Education and Community Services except as noted below and in the section of this catalog entitled Division of Continuing Education and Community Services.

MATRICULATED STATUS

Once a student has matriculated - been accepted by the college into one of its Associate Degree or Certificate programs of study - they must maintain a prescribed academic standing in order to continue from one semester to another. Matriculation must occur in order to be graduated in one of N.E.C.C.'s programs of study.

Academic regulations are applied in both the Day Division and the Division of Continuing Education and Community Services, with the following exceptions:

1. Students who have matriculated through the Division of Continuing Education and Community Services may continue their studies towards a degree or certificate even though they may not enroll in consecutive semesters.
2. The regulation pertaining to academic suspensions is managed differently for students who have matriculated in the Division of Continuing Education and Community Services. Such students are normally not suspended; however, they may lose their matriculated status (which may result in loss of financial aid or veterans' benefits) or be put on a probationary status.
3. Drop/add time periods for short term, accelerated, or extended courses may differ from the traditional semester time periods. However, posted time periods are equivalent.

Policies and procedures relating to academic standards in the college are handled by various administrative and student support service areas. General inquiries from Day Division students should be directed to the Dean of Student Services' office, and those from students in the Division of Continuing Education and Community Services to that division's office. Specific contact references are named as appropriate in the material which follows.

ACADEMIC ETHICS AND PLAGIARISM

The college expects all students to maintain high standards of academic honesty and integrity. Plagiarism is clearly an example of a violation of Academic Ethics and is a major offense.

Plagiarism is defined by the college to be the use of any other person's work or ideas as though the work or ideas were your own, without giving the appropriate credit.

Instructors are required to provide students with a clear written definition of plagiarism applicable in their discipline as part of their course syllabus, which they provide students during the first two weeks of each course.

Students are responsible for understanding what plagiarism is in each of their classes. The college's definition and that of your instructor will be used as a criterion against which all plagiarism allegations will be judged. Instances of plagiarism will be dealt with first by the instructor who discovers, or is made aware of, the incident. Instructors must discuss the evidence of plagiarism with the student prior to taking action. Instructors who take action as a result of a plagiarism incident may report such action to the Dean of Student Services. There shall be a range of penalties at the discretion of the instructor which may extend to a recommendation to the Dean of Student Services for expulsion from the college. The Dean of Student Services may take disciplinary action against students who are reported for plagiarism.

Students have a right to file a grievance if they feel that the action taken in the alleged plagiarism case discriminated or abrogated their individual or student rights. Students can contact the Dean of Student Services for detailed information regarding Massachusetts Board of Regents of Higher Education Student Grievance Procedures.

SECOND and DUAL DEGREE STATUS

Students may qualify for a second degree by reapplying for admission into a new program after they have received their first degree.

If a student applies for a second degree, only those courses taken in the first degree that are applicable towards the second degree will receive credit. Only those courses completed during the second degree will be computed for the QPA. In addition, to qualify for a second associate degree a student must:

1. Meet all specific degree requirements of the program for which a second associate degree will be granted.
2. Complete the specific courses, as identified and approved by the appropriate individual or committee at the institutional level, needed to complete the second degree. This information will be made available to the college community.
3. Complete a minimum of **15 credit hours** beyond the first degree. In no case (other than this 15-hour minimum) should it be mandatory for the student to take more credit hours than are necessary to meet the requirements of the second degree program.

Students may qualify for dual degrees by pursuing a course of study that will allow them to earn two degrees concurrently. Criteria stated above that qualifies a student for a second associate degree is also applicable to dual degrees.

Contact the Admissions Office if you are reapplying for a second degree, and the Registrar's office if you wish to declare a dual degree status.

THE CURRICULUM PLAN

The plan for each associate degree or certificate program of studies indicates all or some of the following:

1. Specific courses, by number and title, which must be completed and the sequence in which they must be completed.
2. Required types of courses, such as science, mathematics, humanities, etc., which must be completed.
3. Elective opportunities (not otherwise limited by specific program requirements) where any course or courses can be chosen as long as the required number of credits to earn the degree is satisfied.

Each curriculum plan is organized and scheduled so that a student who enters in the Day Division in the Fall semester can complete the program in two semesters for a certificate and four semesters for an associate degree. In some programs, such as Liberal Arts, Business Transfer and a few others, the curriculum plan can be completed in four semesters for those who enter in January. Students are reminded that a minimum of 24 credit hours of work, and the final year of work, must be completed at Northern Essex in order for a student to qualify for an associate degree. Any student in a one-year certificate program must earn at least 12 credits in classroom activity. In most instances, the time needed to complete the requirements in the Division of Continuing Education and Community Services is about twice that of the Day Division.

In order to meet the requirements in four semesters, a student must complete an average of at least 15 credit hours each semester. This pace involves a course load which, for a variety of reasons, is too heavy for many persons. Therefore, many persons take five and six semesters to complete their requirements. The college, therefore, defines a full time students as one who is carrying 12 credit hours in one semester.

Students, in consultation with advisors, select courses and create their schedule during registration. If they are not able to take the courses in the order in which they are listed in the curriculum plan, they must be certain that they have fulfilled any stated prerequisites for courses which are selected out of sequence. Students should consult the most recent college catalog or supplement and their advisor, or a counselor before finalizing any choices. Division and department chairpersons and curriculum coordinators, names of whom are available from the Registrar, may also be consulted.

Students are encouraged to matriculate in a program of studies early in their college experience. Senior students are given priority in registration in order to assist them in being able to select the courses which they need for graduation.

CHANGE OF PROGRAM

Qualified students who desire to change their matriculated status from one academic program to another should initiate the process by completing the appropriate form

available in the Registrar's office. When a student has permission to change his/her curriculum, only those courses and grades applicable to that curriculum will be computed in his/her cumulative quality point average. However, all courses taken and grades received will appear on the academic record, even though they are not computed in the QPA for the new curriculum.

PROGRAM/COURSE REQUIREMENTS

When a course is listed as a requirement for a degree/certificate in a given curriculum and a student wishes to obtain the degree/certificate without taking such a course, a waiver may be requested.

The student will be asked to complete the appropriate waiver form available from the Registrar. Such waivers must be approved by the appropriate division chairperson and the Dean of Academic Affairs.

COURSE LOADS

Students are responsible for knowing what courses are required in their curriculum and for meeting all other academic requirements. In order to graduate in four semesters, students must carry the number of credit hours each semester specified in their curriculum plans. Counselors and faculty are available at registration for advising.

TAKING FEWER COURSES THAN CURRICULUM SPECIFIES: students are encouraged to take the number of courses they feel they can manage with good performance. Note, however, that omitted courses or their equivalent should be taken in summer session in order to graduate in two years.

TAKING MORE COURSES THAN CURRICULUM SPECIFIES: students should limit themselves to the number of courses in their curriculum schedules. Students may request to take more courses in one semester than the suggested schedule if they have attained a QPA of 3.00 or higher at Northern Essex and have approval of their advisor. Final registration approval will depend on the availability of course seats.

NOTE: Students who enroll in more courses than the suggested schedule may be required by the Registrar to drop a course.

COURSE PREREQUISITES

If a student does not have the necessary prerequisite for a course in which he/she wishes to register, it is necessary that the student obtain permission from the chairperson/coordinator of the academic department/program which offers the course. Waiver forms, which can be obtained from the Registrar, must be completed by the student and be approved by the appropriate department chairperson/curriculum coordinator. Approved waivers must be on file in the

Registrar's office prior to the 35th day of each semester. Students will be dropped from a course if they have not met the prerequisite requirement of the course and/or have not received a waiver to take the course.

ADDING A COURSE

A course for which a student did not register may be added to the student's schedule only during the **FIRST SIX ACADEMIC DAYS** of a semester. A student who wishes to **ADD** a course must complete the **ADD** portion of the college's **DROP/ADD FORM** which is available in the Registrar's office. Exact times and procedures for adding a course are published by the Registrar at the beginning of each semester or session.

DROPPING A COURSE

Any student may **DROP** a course by completing the **DROP** portion of the **DROP/ADD FORM** and submitting it in person to the Registrar's office. Failure to drop a course officially will result in an F grade for the course. The following **DROP** periods are in effect at Northern Essex:

Period 1: Courses dropped officially during the first fifteen academic days of a semester are not recorded on the transcript.

Period 2: Courses dropped during the sixteenth to the sixtieth days of a semester receive a grade of W, recorded on the transcript but not computed in the QPA.

Period 3: Courses dropped after the sixtieth day of a semester receive a grade of WP or WF, depending on the students' academic progress in the course at the time the course is dropped. Instructors will evaluate the student who drops a course after the sixtieth day and grade the student WP, Withdrawn Passing; or WF, Withdrawn Failing. The grade received is recorded on the transcript. A WF grade is computed in the QPA as an F grade.

NOTE: The length of a Drop/Add period for accelerated or extended courses or sessions may vary, but are equivalent to the above mentioned policy, and posted accordingly. Exceptions to these policies may be made only by the Dean of Continuing Education or the Dean of Academic Affairs.

REPEATING A COURSE

Students may repeat a course. There is no limit to the number of times that such a course may be repeated. In each instance the highest grade received when repeating a course will be used to determine the QPA. The notation R appears in the transcript for any repeated course.

Any student repeating a course must complete a Repeat Course Form available in the Registrar's office.

Priority in course seating is given to those who have not previously earned a C or above in the course.

NOTE: Persons receiving any form of financial assistance should seek written approval from the representative of the agency providing the assistance; for example, the Veterans Affairs Office (on campus), Massachusetts Rehabilitation Counselor, etc.

AUDITING A COURSE

Where specific program requirements do not otherwise prohibit, students may elect to enroll and attend a credit course for self-improvement or individual interest, without the responsibility of fulfilling academic assignments by auditing a course for no course credits. An audit request form, available in the Registrar's office, must be completed during the first fifteen (15) days of class.

Enrollment of auditors in courses is subject to the approval of the Dean of Academic Affairs and the individual faculty member concerned.

Any Day Division student who is taking less than 11 credits will be charged an Audit Fee of \$21.00 per semester per audit course. Full time Day Division students do not have to pay an Audit Fee. Students in the Division of Continuing Education and Community Services must pay \$18.00 per semester hour for each course they wish to audit, regardless of full or part-time enrollment status. All fees are payable at registration.

An audit grade **CANNOT** be changed to a regular course grade.

DIRECTED STUDIES COURSES

In order to provide for a unique, highly individualized course of study for a single student, or a relatively small number of students, each academic department/program in the college offers Directed Studies courses. Such courses are designed to provide further study through directed readings, directed research projects or seminars, or special class work related to research in a specific subject. Each Directed Studies course is usually initiated in response to student interest, is limited to 5 or fewer students and should not be confused with a Special Topics course.

SPECIAL TOPICS COURSES

A Special Topics course may be offered by any academic department/program with the approval of the division chairperson responsible for that area and the chairperson of the Curriculum Committee. Special Topics courses are normally initiated by faculty or division chairpersons and are created for more than 5 students. Special Topics courses are regular semester college courses and may be from one to four credits. Classes will meet on a regular schedule.

Dates for submission of Special Topics proposals will follow the time schedule established by the Office of the Dean of Academic Affairs. Approval for Special

Topics courses may be granted **twice** by the chairperson of the Curriculum Committee and is based on the fact that procedures are followed rather than course and content approval.

When a Special Topics course has been given **twice**, it cannot be repeated until a formal course proposal has been submitted to the Curriculum Committee for its formal adoption and approval.

COURSES TAKEN AT ANOTHER COLLEGE WHILE ENROLLED AT N.E.C.C.

The educational design for each curriculum at Northern Essex is based on the premise that students will fulfill the requirements for a degree/certificate from courses at this college, once they have been accepted into a program. However, when a student lacks one or two courses for completing requirements at Northern Essex and problems of distance, course availability or class time make it very difficult to take the courses at this college, the student **may request permission** to take a course at another college. Grades given for courses transferred from another college are not computed in the QPA average at Northern Essex.

This alternative will be approved by the Director of Admissions only in hardship situations and is subject to the following stipulations:

1. The student must complete a minimum of twenty-four (24) credit hours and the final year of course work at Northern Essex Community College to qualify for a degree.
2. The student in a one-year certificate program must earn at least twelve (12) credits in classroom activity at Northern Essex Community College.
3. All conditions prescribed in the student's curriculum plan are being met.
4. The student provides this college with a detailed course description of the course.
5. Written approval is received from the Director of Admissions by the student **before** taking the course at another college.
6. A grade of C or better is earned in the course.

NOTE: The college does not automatically approve courses to be taken at another college. Request forms and additional information are available in the Registrar's office.

POST-GRADUATE COURSES

Courses taken at another college after completion of a degree or certificate program will become part of a new academic record. If credit earned is to be applied to a second degree, check procedure on Second and Dual Degree Status in this section of the catalog.

ACADEMIC STANDING

A student's academic standing indicates progress towards a degree. A minimum over-all average grade is required to continue from one semester to another. There are three categories of academic standing. These are described below.

GOOD STANDING

Good standing is defined as follows:

A QPA of 1.50 after attempting one to nineteen credit hours

A QPA of 1.75 after attempting twenty to thirty-six credit hours

A QPA of 1.90 after attempting thirty-seven to fifty-four credit hours

A QPA of 2.00 after attempting fifty-five or more credit hours.

PROBATION

Probation is a warning that a student must show academic improvement in order to maintain enrollment within a program. Probation is a written warning from the Dean of Student Services. This letter states that students on probation must consult with a counselor or their faculty advisor and plan a course of studies to improve grades. Upon attaining grades of good standing, probationary status is removed.

Probation status is defined as follows:

A QPA below 1.50 after attempting one to nineteen credit hours

A QPA below 1.75 after attempting twenty to thirty-six credit hours

A QPA below 1.90 after attempting thirty-seven to fifty-four credit hours

A QPA below 2.00 after attempting fifty-five or more credit hours.

SUSPENSION

Suspension automatically drops a student from the college rolls and denies the student's eligibility to return in the following semester. Suspended students are informed in writing by the Dean of Student Services.

Academic Suspension is assigned as follows:

A QPA less than 1.00 after attempting one to nineteen credit hours

A QPA less than 1.50 after attempting twenty to thirty-six credit hours

A QPA less than 1.75 after completing thirty-seven to fifty-four credit hours

A QPA below 1.90 after attempting fifty-five or more credit hours; but less than nine credit hours beyond the total required in the student's curriculum

A QPA below 2.00 after attempting nine credit hours beyond the total required in the student's curriculum.

Students under suspension from the Division of Continuing Education and Community Services are suspended from degree status, but may continue to take courses in the division and apply for re-admission to degree status by raising their QPA's.

NOTE: Suspended students may lose their eligibility to receive veterans' benefits or financial aid until they have returned to a matriculated, good standing status.

REMOVAL FROM SUSPENSION

Students who are suspended may raise their QPA and qualify for removal from suspension in two general ways:

1. By satisfactorily repeating failed courses at N.E.C.C. which automatically raises a QPA
2. By satisfactorily completing courses taken during the evening or summer sessions of the Division of Continuing Education and Community Services.

Additional information on how to be removed from suspension can be obtained from the Division of Continuing Education office, the Dean of Student Services or a college counselor.

GRADING SYSTEM

All grading is done according to a letter system in which A represents excellent work; B - good; C - fair; D - merely passing; I - incomplete; F - failure; W - withdrew; WP - withdrew passing; P - passing; NC - no credit; WF - withdrew failing; NG - no grade issued. Grades are distributed at the end of each semester by mail.

Each student has a Quality Point Average (QPA) which is determined by dividing the number of credit hours attempted into the number of quality points earned. In order to accomplish this each letter grade is given a numerical value on a scale of 0 - 4. These are called Quality Points.

The numerical values assigned are:

Grade	Approximate % Equivalent	Quality Points (per credit hour)
A	90-100	4
B	80-89	3
C	70-79	2
D	60-69	1

instructor, completion of the assigned tasks would allow the student to earn a passing grade in the course. If the instructor assigns an INC, a Documentation of Incomplete Grades form must be completed and placed in the student's folder maintained by the Registrar. This will clearly outline the work to be completed and the time limit.

Instructors may accept late course work only when, in their judgment, there are acceptable reasons to justify such a delay. If a final examination is missed because of student inaction, as opposed to a cancellation of class or instructor inaction, the instructor may allow a make-up if, in the judgment of the instructor, successful completion of the final examination could earn the student a passing grade.

If, for any reason, the instructor has left Northern Essex permanently or for an extended period of time and is unavailable, the division chairperson has the authority to change the grade using the Grade Change Form. The division chairperson's decision is based upon a waiver of any existing documentation of the Incomplete. If documentation of expected work is not available, the division chairperson may use his/her professional judgment to determine work to be completed and the final grade.

Incomplete grades are temporarily computed as F grades in determining both the semester and cumulative QPA until the INC has been changed to another grade. INC grades can lower a QPA to the point that the student is placed on academic suspension.

Incomplete grades (INC) are automatically converted to F grades at the end of the following semester. The student is expected to take the initiative in seeking to complete the work necessary to change an INC to another grade. An INC cannot be changed to a W, WP or WF.

PASS/NO CREDIT GRADE OPTION:

Liberal Arts Program

A student enrolled in the Liberal Arts Program who has successfully earned 12 credits or more, may elect to enroll in a course under the Pass/No Credit grade option. The following criteria apply to the Pass/No Credit (NC) grade option:

1. Courses taken on a Pass/No Credit basis may be used only to fulfill the **elective** requirements of the Liberal Arts degree. All **specific** course requirements must be taken for a letter grade.
2. At **no time** may a grade for a course taken on a Pass/No Credit basis be converted to a letter grade.
3. All credits earned for courses taken as Pass/No Credit will count towards the total credit hours required for a Liberal Arts degree, but will not be calculated into the student's quality point average.
4. No more than 12 credit hours of Pass/No Credit courses may be applied toward the student's degree and no more than one course may be taken on this basis in any one semester.
5. Some colleges may not permit the student to use courses taken as Pass/No Credit for transfer purposes. Responsibility for seeking

information regarding the transferability of Pass/No Credit courses lies with the student (see 2. above).

6. The Pass/No Credit Grade Option form must be **completed** and **submitted** to the Registrar no later than the **sixth** academic day of the semester in which the course is taken.

Approval from the course instructor is not necessary for the Pass/No Credit option. The instructor is, however, notified of your Pass/No Credit option. The Registrar may approve late applications for the Pass/No Credit option, but in no cases will requests for a Pass/No Credit option be approved after the fifteenth academic day of a semester. Pass/No Credit Grade Option forms are available only in the Registrar's office.

CHANGING GRADES

To alter the final grade of a student, instructors must complete a Change of Grade form which contains the following information:

- Name of student; social security number
- Title of course and section number
- Semester earned
- Grade originally reported
- New grade
- Brief but comprehensive statement of reason for making change; e.g., clerical error, error in computing the grade

Change of Grade forms are available in the Registrar's office. Instructors must submit forms in person.

MID-SEMESTER GRADES

No mid-semester grades are issued at Northern Essex. All students, however, have the right to require written evaluations from their instructors at any time during the semester.

The Registrar's office has a mid-semester grade form available for students who wish to submit them to their instructors.

STUDENT ACADEMIC TRANSCRIPTS

The Registrar's Office maintains permanent transcripts for all students who earn academic credit at the college. If the student successfully completes a program of study at Northern Essex Community College, the name of the degree or certificate earned will be noted on the transcript. Transcripts are also kept for students who earn Continuing Education Units (CEU's).

Transcripts may be reviewed by students upon request in person, or in writing. Students must present an acceptable form of identification, such as a driver's license, college I.D. card, social security card, etc. Transcripts will be released to other parties

only if written authorization from the student has been received. Any written request for (or release of) a transcript must contain the student's name, address, date of birth, social security number, and dates of attendance. The first transcript is free; additional copies are \$1.00 each.

All courses taken at Northern Essex Community College are recorded as a single permanent record. Academic credits earned for courses completed either through the Day Division or the Division of Continuing Education and Community Services may be applied to fulfill program and degree requirements. Students who graduate from N.E.C.C. and then return to pursue a second degree may, however, have two separate degree transcripts. Additional information about transcripts and permanent records is outlined as appropriate throughout this section of the catalog.

GRADUATION REQUIREMENTS

Northern Essex Community College awards Associate Degrees in Arts and Sciences, and Certificates to all qualified students at commencement exercises for each class. In order to receive this award, students must meet the following criteria:

1. Completion of all required courses in a curriculum with a passing letter grade.
2. Completion of the number of credit hours prescribed by a particular curriculum.
3. Completion of final year of course work and a minimum of 24 hours of course work at N.E.C.C. in order to qualify for a degree, and a minimum of 12 credits in classroom work to qualify for a certificate.
4. Attainment of a cumulative quality point average (QPA) of 2.00 or higher.
5. Completion of the petition for graduation prior to deadline date as prescribed in the Academic Calendar.
6. Payment of all financial obligations at the college.

HONORS

Each semester students are appointed to the Dean's List for Academic Honors if they fulfill the following requirements:

1. They are candidates for a degree
2. They are carrying 12 or more credit hours within the semester
3. They attain a quality point average of 3.00 or higher within the semester.

High honors are awarded during commencement to all students with a cumulative quality point average of 3.50 or higher.

Honors are awarded during commencement to all students with a cumulative quality point average from 3.00 to 3.49 inclusive.

ATTENDANCE and NON-PARTICIPATION

Students are expected to attend each meeting of each class in which they are enrolled. The class instructor has full and final authority to decide whether a student is permitted to make up work missed through absence, and on what terms. Students should ask each of their instructors about their respective attendance policies.

Faculty have the academic authority to remove students from their class for non-attendance or non-participation. A non-participating student is one who, because of absences, missed quizzes, tests or papers, has fallen behind the work of the class to such a degree that the instructor feels the student is not likely to attain a passing grade. In most cases, circumstances would indicate to the teacher that the student has dropped the course but neglected to drop it officially.

When students are removed from a class due to non-participation, they will receive a letter from the Registrar, along with instructions on reinstatement procedures.

WITHDRAWING FROM COLLEGE

Any **Day Division** student who wishes to withdraw from the college must complete a **WITHDRAWAL FORM** which can be obtained in the Registrar's office. If a student leaves the college without completing a withdrawal form, the transcript will record a WF grade for each course. The following withdrawal from the college periods are in effect at Northern Essex:

Period 1: If a student officially withdraws from the college during the first fifteen academic days of a semester, no courses or grades are recorded on the transcript.

Period 2: If a student officially withdraws from the college between the sixteenth and the sixtieth academic day of a semester, grades of W in all courses will be recorded on the transcript, but not computed in the QPA.

Period 3: If a student withdraws from the college after the sixtieth academic day in a semester, grades of WP (if the student is passing the course) or WF (if the student is failing the course) will be given by the instructor, recorded on the transcript, and computed in the QPA.

In unusual cases, an exception might be made to this rule in regard to withdrawal from a course or from the college if necessitated by prolonged illness or serious family problems. Decision in these cases will rest entirely with the administration of the college. Contact the Registrar's office or the Dean of Student Services for more information.

NOTE: If you withdraw from college you will not be eligible to register for courses during the up-coming semester. You must reapply for admission and will receive instructions on how to register after you have been readmitted.

Students in the Division of Continuing Education and Community Services do not have to withdraw from the college if they discontinue their studies.



ACADEMIC DIVISION STRUCTURE

Under the leadership of the Dean of Academic Affairs, programs of study at Northern Essex Community College are offered through the cooperative efforts of six academic divisions, each one directed by a division chairperson.

DIVISION OF BUSINESS

Division Chairperson: Olga Williams
Room C-309, Extension 185

The Division of Business is composed of the Department of Business Administration, the Department of Office and Business Education, and the program in Medical Record Technology

The programs in this division were among the first career programs to be offered by the college and there has been, during the past twenty years, a constantly accelerating rate of growth in student registrations. The faculty for the division is selected for its academic qualifications and for actual experience in the world of business. The instructors have close ties with the community and can deal effectively with practical as well as theoretical concepts in their field of specialization.

The main objective of the division is to enable the student to develop those skills and proficiencies that are essential to the competent performance of professional work either in the classroom or on the job. There is a comprehensive range of elective courses available in all programs, allowing the student and faculty advisor to structure a program consistent with the specific interests and goals of individual students.

The programs of the Division of Business are well-diversified and serve the multiple needs of people in the area. The division is continuously analyzing, revising, modifying and updating its offerings to reflect the rapid and dynamic changes in the modern business world. The division offers:

Two-year associate degree programs combining study in the liberal arts, core business subjects and specialized business courses for immediate employment opportunities or for career advancement.

Two-year associate degree programs which are transferable to four-year baccalaureate programs.

Shorter clusters of credit courses, special interest courses and mini-courses for individuals who wish to review, reinforce or update their knowledge and mastery of business disciplines and skills.

DIVISION OF HUMANITIES & COMMUNICATION

Division Chairperson: Chester Hawrylcw

Room C-360, Extension 255

The departments of Creative Arts, English, and Foreign Languages/Philosophy/Religion are included in the Division of Humanities and Communication. This division provides a wide range of courses for students matriculating in the Liberal Arts Program, as well as many of the non-technical courses for students studying in career programs. Special enrichment courses and a part-time course package are also offered.

The division is dedicated to contributing to the overall growth and development of each student attending Northern Essex Community College. Emphasis is placed on communication: effective written and verbal skills are an asset to everyone; creativity: a knowledge of the essence of drama, art, music can enrich lives; and the humanities: languages, religion and philosophy are the core of every culture.

The Liberal Arts Program provides a focus for the unique, varied opportunities offered by this division. A general transfer program is provided as well as concentration sequences in several areas such as journalism, music, art, science and women's studies. Extracurricular activities are a major component of divisional opportunities. The college newspaper, the literary magazine, dance in performance, concerts, theatre performances, and art exhibits are all developed by division faculty.

The objective of the Division of Humanities and Communication is to provide learning experiences to help students evaluate and express attitudes, explore unique interests, grow in self-expression, and begin to understand the nature of humanity.

DIVISION OF HUMAN SERVICES & HEALTH PROFESSIONS

Division Chairperson: Paul Bevilacqua

Room C-391, Extension 188

The Division of Human Services and Health Professions includes a wide variety of career programs, the Department of Sport and Leisure Studies, and the Life-Long Learning Program. The health professions programs provide careerists for today's health care delivery system and prepare students for licensing and/or national registration in specific health specialties. The career programs are community-based and provide a great deal of opportunity for experiential learning. This approach results in an exciting, realistic, and meaningful experience for persons preparing to enter a specific career field and those persons seeking an opportunity for career exploration.

Many of the division's programs are offered through the college's Day Division on a full-time basis, including Early Childhood Education, Mental Health Technology, Gerontology, Community Residence Manager, Criminal Justice, Interpreter Training, Nursing, Respiratory Therapy, Radiologic Technology and a Liberal Arts program concentration in Physical Education and Recreation.

A number of these programs are presently offered in the Division of Continuing Education and Community Services as well, together with others including Educational Assistant: Language Communication (associate degree and certificate), Gerontology (associate degree and certificate), Nursing and a special program in Emergency Medical Technician. In addition, a number of courses carrying Continuing Education Credits (C.E.U.'s) are offered primarily in the health professions area. Courses are also offered in Deafness Communication with a focus on signing skills.

It is the policy of all career programs in the Division of Human Services and Health Professions which have a clinical practicum to require that all students have completed health records on file in the Health Services Office. Students will not be allowed to participate in the clinical-practicum aspect of their program of study until these records are complete.

The Department of Sport and Leisure Studies contributes to the development of physical recreation skills and interests that will enrich an individual's leisure and stimulate desire for life-long fitness, health and enjoyment. The Life-Long Learning Program presents a series of programs throughout the year directed at a primarily over fifty-five audience, but open to all. The coordinator of this program also assists this group of people in getting involved in other programs on campus.

DIVISION OF INSTRUCTIONAL DEVELOPMENT

Division Chairperson: David Kelley
Room A-107, Extension 288

This multi-purpose, service oriented academic division is composed of two centers, the Academic Support Center and the Learning Resources Center. Since its inception in 1976, the division has devoted most of its attention to providing supportive services and resources to students and faculty from the college's other academic divisions.

The Academic Support Center offers learning laboratories and courses which help students to improve their reading, writing and math skills. The Academic Support Center's goal is to furnish students with the skills which are necessary for reaching their personal, academic or career objectives. The Center's English as a Second Language Program prepares non-English speaking people for entrance into regular degree programs at the college and is responsible for reaching out to the non-English speaking population of the Merrimack Valley. The Discovery Program is possibly the most unique aspect of the Center; it is designed for students who are in need of intensive individual assistance and support as they begin their college education.

The Learning Resources Center goes beyond the concept of the traditional library to provide the campus with a wide spectrum of educational equipment, materials and services. The LRC stores vital information in the form of books, magazines, films, audio and video tapes, and many other media. The library and media professionals are the campus experts for training people in the use of library resources and media equipment. The LRC staff assists in supplying students and faculty with information and resources for communication of their ideas to individuals and groups.

DIVISION OF MATHEMATICS, SCIENCE & TECHNOLOGY

Division Chairperson: Corinne Grise
Room C-313, Extension 183

The departments of Mathematics, Natural Sciences, and Engineering and Technology are contained within the Division of Mathematics, Science and Technology. The division follows the philosophy of Northern Essex Community College which aims at serving the needs of all students in the community, including the Liberal Arts student in the Division of Continuing Education and Community Services. A variety of traditional courses in mathematics and science are offered which enable students to meet the requirements of the first two years of an undergraduate program at most colleges or universities. In addition, courses in the technologies, mathematics and science are provided for students in specialized career programs.

The curricula in Electronic, Computer Maintenance and Civil technologies, Computer Programming and Chemical Technology prepare students for responsible technical positions in modern industry. Communicative and cognitive skills are developed through the study of the humanities and the social sciences which are also part of each curriculum. The Engineering Science curriculum provides opportunity for students who wish to transfer to a bachelor's degree program in Engineering at a senior college.

The division believes that it is extremely important for optimum teaching and learning in both the classroom and laboratory to have proper facilities and equipment. Our equipment ranges from large-scale demonstration equipment to unique monitoring and research devices, in addition to the full range of traditional undergraduate laboratory equipment and audio-visual hardware and software.

The division is committed to developing excellence in its students, and strives for excellence in its faculty members.

DIVISION OF SOCIAL SCIENCES

Division Chairperson: Usha Sellers
Room C-390, Extension 294

The Department of Behavioral Sciences and the Department of History and Government are included in the Division of Social Sciences.

The objectives of this division are to provide a teaching and learning atmosphere which enhances our understanding of the individual and the group; to provide an understanding of social-cultural, economic, political and intellectual conditions in which the individual and the group exist; and to provide an awareness of the background and historical forces which influence our society and the societies of others. In addition, the division, through specific courses, workshops and seminars, addresses the career-related interests of students and their personal and academic advancement. The theme, "No man is an island", is reflected in all the courses and activities sponsored by the division.

The various methods used by the division to meet academic and community needs include:

- Colloquia, interdisciplinary courses, career related courses, independent study and special topics courses.

- Course concentrations in Social Work, Women's Studies, Town Management, Law and a concentration in Gerontology, as well as other Liberal Arts courses and degree concentrations.

- Behavioral science and international study related clubs which sponsor guest speakers from the community.

- Study trips to Washington, D.C., and the United Nations in New York City.

- Counseling self-improvement seminars.

Since every student at Northern Essex will take one or more courses offered by the Division of Social Sciences, the division strives to meet the needs of this diverse body of students.



ASSOCIATE DEGREE PROGRAMS CERTIFICATE PROGRAMS

Northern Essex Community College offers a variety of programs which emphasize either the immediate marketing of knowledge and skills - the career programs - or direct transfer to a senior institution - the transfer programs - or combine the above designs to allow students to explore various career possibilities within a transfer model.

Successful completion of a career program prepares the student for direct entry into jobs in public service, health, business and industry. The basic structure of these programs concentrates on technical and theoretical courses in the skills necessary for a particular phase of employment. Although career program courses are not specifically designed for transfer to a senior institution, they do have transfer potential. Many students in career programs have been accepted, after graduation from Northern Essex, in senior institutions related to their career fields.

Transfer programs give students a fully-transferable, comprehensive education equivalent to the first two years of a four-year college or university. The transfer programs give students the opportunity to explore a wide range of disciplines.

Many students use the first two years of college to test their abilities, aptitudes and preferences in different subjects before specializing. Other students, who have a definite career choice in mind, may elect a course of study which will enable them to transfer. The courses in these programs parallel in structure and aim the first two years of the curricula in most senior institutions and successful completion of these courses should provide a good basis for transfer with advanced standing to a senior institution.

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Associate in Science Degree in **ACCOUNTING**

A basic core of business courses which introduces students to the broad variety of areas within the business field and prepares them to select that particular phase of specialization which best suits their needs, abilities and interests. The accounting specialization is designed to prepare graduates to enter business, industry and government in the specialized accounting field. Sixty-four (64) credit hours of work are required for graduation.

FIRST SEMESTER		CREDIT	SECOND SEMESTER		CREDIT
EN4401	English Composition I	3	EN4402	English Composition II	3
AC6601	Introductory Accounting I	4	AC6602	Introductory Accounting II	4
	Mathematics (see Math Chart)	3		Mathematics (see Math Chart)	3
MK6678	Marketing	3	EN8011	Speech/Oral Communication	3
SO3321	Introduction to Sociology		PS1101	Introduction to Psychology	
OR	OR		OR	OR	
PS1101	Introduction to Psychology	3	SO3321	Introduction to Sociology	3
		16			16
THIRD SEMESTER		CREDIT	FOURTH SEMESTER		CREDIT
FI3652	Business Finance	3	EC3652	Survey of Economics	3
LW6651	Business Law I	3	MG6676	Personnel Management	3
AC6651	Intermediate Accounting I	4	AC6652	Intermediate Accounting II	4
AC6671	Cost Accounting	3	AC6682	Tax Accounting	3
SC5011	Energy, Environment & Our Future*	3		Elective	3
		16			16

***Another science course may be elected in place of this requirement.**

Olga Williams Ext. 185
Chairperson, Division of Business

Donald Horgan Ext. 258
Chairperson, Dept. of Business
Administration

SEPTEMBER 1982

Associate in Science Degree in ADMINISTRATIVE ASSISTANT

The Administrative Assistant associate degree program is designed to prepare students for responsible careers in the office and business fields. The work of the office administrative assistant provides support and assistance in fields such as general and personnel administration, finance, law, insurance, banking, government and other areas of the professional and business world. This program is primarily intended for individuals with substantial experience in some occupation in the field who wish to prepare themselves for promotional opportunities at the supervisory level or for those individuals already possessing high-level business skills in shorthand and typewriting upon matriculation. **Approval of the Chairperson of the Division of Business is necessary for acceptance into this program.** Sixty-one to sixty-four (61/64) credit hours of work are required for graduation.

***SHORTHAND CONCENTRATION:** Choose any combination of the following business electives: SH6621 Principles of Shorthand, SH6622 Intermediate Shorthand, SH6671 Introductory Shorthand Dictation & Transcription, SH6672 Advanced Shorthand Dictation & Transcription.

***ACCOUNTING CONCENTRATION:** Choose the following business electives: AC6693 Elements of Accounting III, AC6694 Simulation in Accounting, AC6682 Tax Accounting, AC6671 Cost Accounting.

***GENERAL BUSINESS CONCENTRATION:** Individualize a business concentration according to interests and needs with a combination of the following electives; MK6679 Advertising, FI6653 Credits and Collections, SL6666 Introduction to Word Processing, SK6655 Machine Transcription, SK6652 Office Machines, FI6651 Principles of Insurance, FI6663 Principles of Real Estate, SL6668 Secretarial Field Experiences, SH6621 Shorthand, EC3652 Survey of Economics, MK6678 Principles of Marketing, MG6686 Small Business Management.

***WORD PROCESSING/INFORMATION MANAGEMENT CONCENTRATION:** To prepare for the changing technology, new office skills and office managerial techniques needed in this new business specialization, select the following courses: SK6653 Machine Transcription, SL6666 Introduction to Word Processing and SL6682 Managerial Communications. Courses in BASIC Programming are also recommended as electives.

FIRST SEMESTER		CREDIT	SECOND SEMESTER		CREDIT
EN4401	English Composition I	3	EN4402	English Composition II	3
AC6691	Elements of Accounting I		AC6692	Elements of Accounting II	
OR	OR		OR	OR	
AC6601	Introductory Accounting I	3/4	AC6602	Introductory Accounting II	3/4
TW6621	Typewriting I		MG6676	Personnel Management	3
	OR		TW6622	Typewriting II	
	Business Elective*	3		OR	
	Social Science Elective	3		Business Elective*	3
	Business Elective*	3	PS1101	Introduction to Psychology	3
		15/16			15/16
THIRD SEMESTER		CREDIT	FOURTH SEMESTER		CREDIT
SL6661	Office Administration I	3	SL6665	Essentials of Office	
TW6631	Typewriting III	3		Management	3
CT6633	Intro. Data Processing/Basic	4	LW6651	Business Law I	3
	Business Elective*	3		Natural Science Elective	3/4
	Liberal Arts Elective	3		Business Elective*	3
		16		Liberal Arts Elective	3
					15/16

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Chairperson, Division of Business

Jean Poth Ext. 268
Chairperson, Dept. of Office and
Business Education

SEPTEMBER 1982

Associate in Science Degree in **BANKING**

The Banking associate degree program† has been developed by the college in conjunction with the Educational Committee of the Merrimack Valley Chapter, American Institute of Banking (AIB). This program is designed primarily for those presently employed in banking. The courses parallel those offered by the AIB, and students are able to work towards AIB certification as they complete associate degree requirements. The program provides the student with a broad academic background and the fundamentals of banking and business management skills. Sixty-two (62) credit hours of work are required for graduation.

†Currently offered in the Division of Continuing Education and Community Services only.

FIRST SEMESTER		CREDIT	SECOND SEMESTER		CREDIT
EN4401	English Composition I	3	EN4402	English Composition II	3
AC6601	Introductory Accounting I	4	PS1101	Introduction to Psychology	
MA5613	Mathematics of Finance	3	OR	OR	
EC3652	Survey of Economics	3	SO3321	Introduction to Sociology	3
BK6601	Bank Operations		EN8011	Speech/Oral Communication	3
OR	OR		BK6611	Money and Banking	3
BK6602	Savings & Time Deposit Banking	3	AC6602	Introductory Accounting II	4
		<hr/>			<hr/>
		16			16
THIRD SEMESTER		CREDIT	FOURTH SEMESTER		CREDIT
LW6651	Business Law I	3	LW6652	Business Law II	3
MG6676	Personnel Management	3	BK6612	Bank Management	3
	Banking Elective*	3		Banking Elective**	3
	Banking Elective*	3		Liberal Arts Elective	3
	Liberal Arts Elective	3		Elective	3
		<hr/>			<hr/>
		15			15

*THIRD SEMESTER BANKING ELECTIVES: BK6623 Installment Credit, BK6621 Credit Administration, BK6622 Home Mortgage Lending, BK6624 Trust Department Services.

**FOURTH SEMESTER BANKING ELECTIVES: BK6652 Bank Letters and Reports, BK6651 Analyzing Financial Statements, BK6654 Fundamentals of Bank Data Processing, BK6653 Bank Public Relations and Marketing, or any third semester banking elective not previously selected.

Olga Williams..... Ext. 185
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Administration

SEPTEMBER 1982

Associate in Science Degree in

BUSINESS EDUCATION

The Business Education program provides the student with the opportunity to acquire not only high-level business and secretarial skills, but the possibility of transferring to a four-year program at a senior institution. Students may transfer the courses listed towards a Bachelor of Business Education degree in order to prepare for a career as a teacher of business subjects, or towards a Bachelor of Office Administration degree in order to prepare for excellent supervisory or management positions in the business world. Sixty-two or sixty-three (62/63) credit hours of work are required for graduation.

FIRST SEMESTER		CREDIT	SECOND SEMESTER		CREDIT
EN4401	English Composition I	3	EN4402	English Composition II	3
	Business Elective	3		Shorthand*	3
	Shorthand*	3		Typewriting II, III or IV**	3
	Typewriting I, II or III**	3	PS1101	Introduction to Psychology	3
HI9901	Western Civilization I	3	HI9902	Western Civilization II	3
		15			15
THIRD SEMESTER		CREDIT	FOURTH SEMESTER		CREDIT
SH6671	Intro. Shorthand Dictation & Transcription		SH6672	Advanced Shorthand Dictation & Transcription	
OR	OR		OR	OR	
SH6672	Advanced Shorthand Dictation & Transcription	3	SH6673	Expert Shorthand Dictation & Transcription	3
SL6661	Office Administration I	3	SL6662	Office Administration II	3
	Natural Science Elective	3/4	AC6602	Introductory Accounting II	4
AC6601	Introductory Accounting I	4		Speech or Literature	3
	Typewriting III OR			Liberal Arts Elective	3
	Secretarial Science				16
	Elective***	3			
		16/17			

*Choose among SH6621 Principles of Shorthand, SH6622 Intermediate Shorthand, SH6671 Introductory Shorthand Dictation and Transcription.

**Choose appropriate course after consultation with departmental advisor.

***Secretarial Science electives are listed with the Executive Secretarial curriculum.

Olga Williams Ext. 185
Chairperson, Division of Business

Jean Poth Ext. 268
Chairperson, Dept. of Office & Business Education

SEPTEMBER 1982

Associate in Science Degree in **BUSINESS MANAGEMENT**

A basic core of business courses which introduces students to the broad variety of areas within the field and prepares them to select the particular area of specialization best suited to their needs, abilities and interests. The Business Management specialization qualifies graduates to enter business and industry in any of several areas. Careful choice of electives builds a background in a particular business area: marketing, insurance, real estate or industrial management. Sixty-two (62) credit hours of work are required for graduation.

FIRST SEMESTER		CREDIT	SECOND SEMESTER		CREDIT
EN4401	English Composition I	3	EN4402	English Composition II	3
AC6601	Introductory Accounting I	4	AC6602	Introductory Accounting II	4
	Mathematics (see Math Chart)	3		Mathematics (see Math Chart)	3
MK6678	Marketing	3	EN8011	Speech/Oral Communication	3
SO3321	Introduction to Sociology		PS1101	Introduction to Psychology	
OR	OR		OR	OR	
PS1101	Introduction to Psychology	3	SO3321	Introduction to Sociology	3
		16			16
THIRD SEMESTER		CREDIT	FOURTH SEMESTER		CREDIT
FI3652	Business Finance	3	EC3652	Survey of Economics	3
LW6651	Business Law I	3	MG6676	Personnel Management	3
	Business Elective*	3		Business Elective*	3
	Business Elective*	3		Business Elective*	3
	Elective	3	SC5011	Energy, Environment & Our Future**	3
		15			15

***THE BUSINESS ELECTIVES:** MK6650 Retailing, MK6679 Advertising, MK6681 Salesmanship, AC6682 Tax Accounting, AC6671 Cost Accounting, LW6652 Business Law II, MG6651 Industrial Management, AC6661 Managerial Accounting, FI6651 Principles of Insurance, FI6653 Credits and Collections, FI6663 Principles of Real Estate, CT6633 Introduction to Data Processing/BASIC.

**Another science course may be selected in place of this requirement.

Olga Williams..... Ext. 185
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Donald Horgan Ext. 258
Chairperson, Dept. of Business
Administration

SEPTEMBER 1982

Associate in Science Degree in
BUSINESS MANAGEMENT:
DATA PROCESSING CONCENTRATION

The Business Management associate degree program with Data Processing Concentration includes a basic core of business courses which introduces students to the broad variety of areas within the field and prepares them to select the particular area of specialization best suited to their needs, abilities and interests. A cluster of specialized courses in data processing is available in this concentration for students wishing to major in this business area. Sixty-six (66) credit hours of work are required for graduation.

FIRST SEMESTER		CREDIT	SECOND SEMESTER		CREDIT
EN4401	English Composition I	3	EN4402	English Composition II	3
AC6601	Introductory Accounting I	4	AC6602	Introductory Accounting II	4
	Mathematics (see Math Chart)	3		Mathematics (see Math Chart)	3
MK6678	Marketing	3	CT6652	Business Programming (COBOL)	4
CT6633	Intro. Data Processing/Basic	4	PS1101	Introduction to Psychology	
			OR	OR	
		17	SO3321	Introduction to Sociology	3
					'17

THIRD SEMESTER		CREDIT	FOURTH SEMESTER		CREDIT
FI3652	Business Finance	3	EC3652	Survey of Economics	3
LW6651	Business Law I	3	MG6676	Personnel Management	3
CT6611	Business Programming (RPG)	4	EN8011	Speech/Oral Communication	3
	Business Elective	3	CT6676	Systems Development & Design	4
PS1101	Introduction to Psychology		SC5011	Energy, Environment & & Our Future	3
OR	OR				
SO3321	Introduction to Sociology	3			
					16
					16

Olga Williams Ext. 185
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Donald Horgan Ext. 258
 Chairperson, Dept. of Business
 Administration

SEPTEMBER 1982

Associate in Science Degree in **BUSINESS MANAGEMENT:** **RETAIL CONCENTRATION**

The associate degree in Business Management with Retail Concentration offers a program of study which combines a broad academic background with a concentration of business courses and practical retail experience. This program will furnish the student with a basic understanding of marketing strategy, selling techniques and product merchandising. Retailing is a specific career field which offers an ever expanding opportunity for our college graduates. Sixty-two (62) credit hours of work are required for graduation.

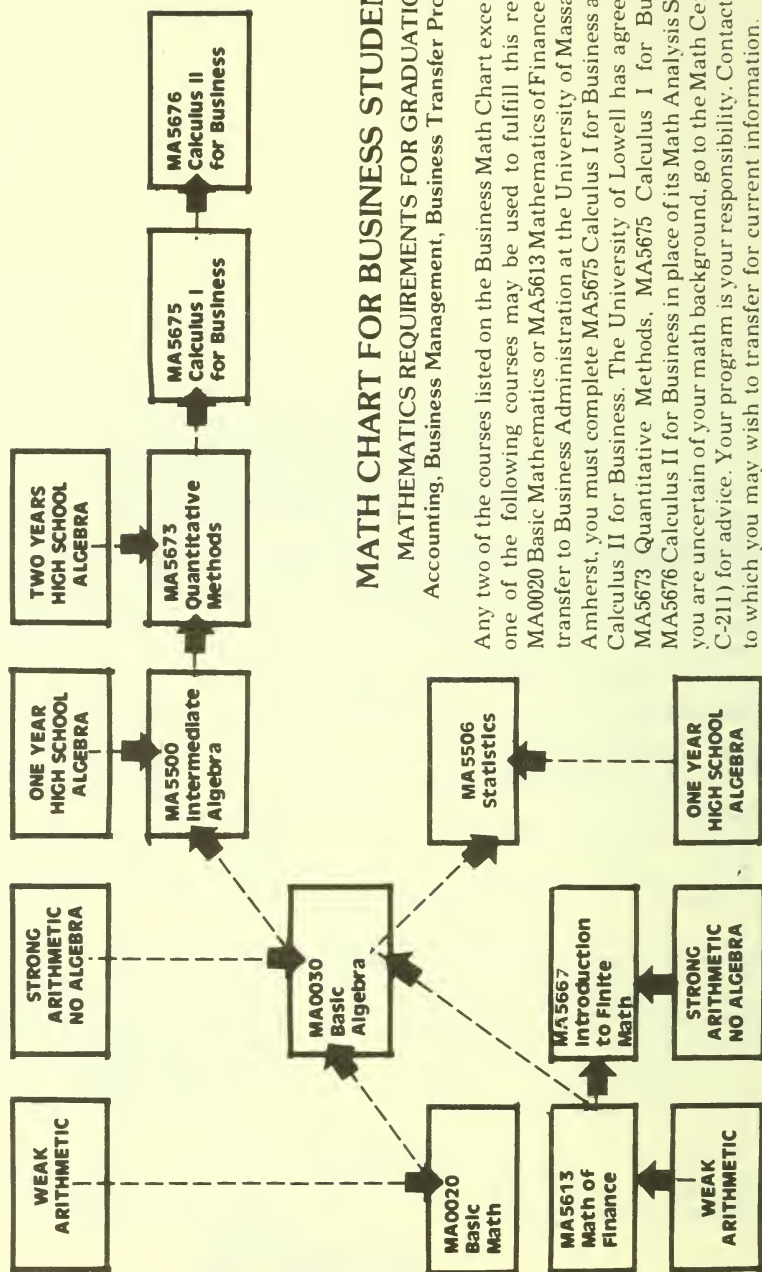
FIRST SEMESTER		CREDIT	SECOND SEMESTER		CREDIT
EN4401	English Composition I	3	EN4402	English Composition II	3
AC6601	Introductory Accounting I	4	AC6602	Introductory Accounting II	4
	Mathematics (see Math Chart)	3		Mathematics (see Math Chart)	3
MK6678	Marketing	3	MK6680	Retailing	3
SO3321	Introduction to Sociology		SO3321	Introduction to Sociology	
OR	OR		OR	OR	
PS1101	Introduction to Psychology	3	PS1101	Introduction to Psychology	3
		16			16

THIRD SEMESTER		CREDIT	FOURTH SEMESTER		CREDIT
FI3652	Business Finance	3	EC3652	Survey of Economics	3
LW6651	Business Law I	3	MG6676	Personnel Management	3
MK6679	Advertising	3	MK6681	Salesmanship	3
CO4401	Retailing Cooperative		CO4402	Retailing Cooperative	
	Work Experience	3		Work Experience	3
EN8011	Speech/Oral Communication	3		Science Elective	3/4
		15			15/16

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Administration

SEPTEMBER 1982



Associate in Science Degree in **BUSINESS TRANSFER**

The Business Transfer program is designed for students planning to transfer to a four-year institution after completing the associate degree program. It provides study in basic liberal arts courses with transferable courses in business administration to provide a strong background for further study towards the bachelor's degree. Sixty-four (64) credit hours of work are required for graduation.

FIRST SEMESTER		CREDIT	SECOND SEMESTER		CREDIT
EN4401	English Composition I	3	EN4402	English Composition II	3
AC6601	Introductory Accounting I	4	AC6602	Introductory Accounting II	4
	Mathematics (see Math Chart)	3		Mathematics (see Math Chart)	3
MK6678	Marketing	3	EN8011	Speech/Oral Communication	3
SO3321	Introduction to Sociology		PS1101	Introduction to Psychology	
OR	OR		OR	OR	
PS1101	Introduction to Psychology	3	SO3321	Introduction to Sociology	3
		16			16
THIRD SEMESTER		CREDIT	FOURTH SEMESTER		CREDIT
EC3322	Micro Economics	3	EC3323	Macro Economics	3
	Natural Science	4		Natural Science	4
	Elective	3		Elective	3
	Elective	3		Elective	3
	Elective	3		Elective	3
		16			16

Natural Science Requirement: Two four-credit courses in natural science are recommended. In some instances a total of nine credits in three-credit science courses may be accepted with Divisional approval.

Mathematics Requirement: Since acceptable transfer courses vary among four-year colleges, students should choose courses in accordance with the specific requirements of the college to which they are seeking admission. It may be necessary for some students to take more than the required two courses in mathematics since courses in **Calculus for Business I** and **Calculus for Business II** are required for admission by some colleges.

Electives: A wide variety of electives is available to fill the requirements of specific colleges in regard to transfer credits. Students are advised to contact the college to which they are seeking transfer to determine courses that should be taken at Northern Essex Community College. Recommended in many instances would be courses in history and government, humanities and additional courses in mathematics. Many four-year schools will also accept additional courses in business administration to satisfy their general elective requirements.

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Administration

SEPTEMBER 1982

Associate in Science Degree in CHEMICAL TECHNOLOGY

The Chemical Technology program is designed as a career program and provides for students to enter the market as a field service chemical technician, field service pharmaceutical technician or material testing technician. Chemical technicians are also in demand in the environmental and expanding alternate energy fields. If the student wishes to further his education, the program is designed to allow the student to enter the advance degree program in chemistry or chemical engineering. The purpose of this program is to provide the student with the concentration needed to work as a chemical technician. There is a large amount of lab training in both chemistry and physics courses. This prepares the student to function effectively in a laboratory environment. Sixty-five (65) credit hours of work are required for graduation.

PROGRAM PREREQUISITE

Two years of Algebra

Geometry and Trigonometry helpful, but not required

FIRST SEMESTER		CREDIT	SECOND SEMESTER		CREDIT
EN4401	English Composition I	3	EN4402	English Composition II	3
MA5621	Algebra & Trigonometry	4	MA5691	Calculus I	5
PI5503	Introductory Physics I	4	PI5504	Introductory Physics II	4
CH5501	General Chemistry I	4	CH5502	General Chemistry II	4
		15			16
THIRD SEMESTER		CREDIT	FOURTH SEMESTER		CREDIT
CH5507	Organic Chemistry	4	EV5625	Sanitation Chemistry	4
MA5692	Calculus II	4	EN4676	Technical Writing	3
CT6633	Intro. Data Processing/Basic	4	CH5508	Instrumentation Analysis	4
ET6601	Graphics	2		Social Science Elective	3
	Humanities Elective	3		Creative Arts Elective*	3
		17			17

Corinne Grise Ext. 183
Chairperson, Div. of Math/Science/Tech

Robert Paul Ext. 271
Chairperson, Dept. of Natural Sciences

SEPTEMBER 1982

Associate in Science Degree in CIVIL TECHNOLOGY

The Civil Technology associate degree program provides students with theoretical and practical knowledge and experience which trains them as qualified technicians in the surveying, layout, plans and specifications, design and supervisory areas of the construction industry. This includes highway design, building design and site development. The theory presented also prepares students interested in education beyond the associate degree level. Many courses offered in the program are also transferable to the Engineering Science Program under the Commonwealth Transfer Compact. Sixty-four (64) credit hours of work are required for graduation.

PROGRAM PREREQUISITE

Two years of Algebra
Geometry and Trigonometry helpful, but not required

FIRST SEMESTER		CREDIT	SECOND SEMESTER		CREDIT
EN4401	English Composition I	3	EN4402	English Composition II	3
MA5621	College Algebra & Trigonometry	4	MA5622	Advanced Algebra & Trig.	4
ET6601	Graphics	2	CE6602	Surveying II	4
CE6601	Surveying I	4	CE6612	Drawing for Civil Tech.	1
	Humanities/Social Science		CT6682	Computer Applications for	
	Elective**	3		Science and Technology	4
		<hr/> 16			<hr/> 16
THIRD SEMESTER		CREDIT	FOURTH SEMESTER		CREDIT
MA5651	Calculus for Technology	4	CE6672	Soil Mechanics	4
CE6665	Transportation Engineering	3	CE6682	Field Engineering Problems	1
CE6653	Strength of Materials	4	PI5622	Applied Physics II	4
CE6651	Statics	3	CE6654	Structural Analysis & Design	3
	Humanities/Social Science		CE6671	Sanitary Engineering*	3
	Elective**	3			<hr/> 15
		<hr/> 17			

*This course will be taught every other Spring, starting with Spring, 1983

**One elective from each of these divisions must be taken, but may be taken in any order

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SEPTEMBER 1982

Associate in Science Degree in COMPUTER MAINTENANCE TECHNOLOGY

The Computer Maintenance Technology program is designed as a career program to train students for positions as technicians skilled in digital computer software and hardware. Students concentrate on programming in Assembly language and higher level languages, and on analyzing and troubleshooting electronic circuits and systems. Laboratories emphasize hands-on experience with up-to-date computers and electronic instruments. Sixty-five to sixty-six (65/66) credit hours of work are required for graduation.

PROGRAM PREREQUISITE

Two years of high school Algebra or equivalent

FIRST SEMESTER		CREDIT	SECOND SEMESTER		CREDIT
EN4401	English Composition I	3	MA5622	Advanced Algebra & Trig	4
MA5621	College Algebra & Trig	4	ET6672	Electronics I	5
CT6601	Fundamentals of Digital Logic	3	ET6690	Microcomputers	4
ET6603	Digital Electronics Lab	1	CT6633	Intro Data Processing w/BASIC	4
ET6111	Intro to Electric Circuits	4			
					17
		15			
THIRD SEMESTER		CREDIT	FOURTH SEMESTER		CREDIT
EN4402	English Composition II	3	CT6683	CPU Systems Troubleshooting	4
ET6682	Digital Electronics	4		Humanities Elective	3
ET6673	Electronics II	5		Social Science Elective	3
	Technical Elective	4		Technical Elective	3/4
				Technical Elective	4
		16			17/18

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Michael Pelletier Ext. 262
Chairperson, Dept. of Engineering/Tech Studies

SEPTEMBER 1982

The Associate in Science Degree in COMPUTER TECHNOLOGY

The Computer Technology program offers two options which train students in the skills necessary for employment in data processing. Students receive extensive experience writing, keying-in and "debugging" programs on the college's computer systems. Our graduates have entered varied areas of computer technology including systems analysis training programs, programming and data processing management. Two options of the Computer Technology program are offered:

COMPUTER SCIENCE OPTION is designed for the student wishing to transfer to a four-year college and major in computer science after receiving the associate degree. This option stresses mathematics, scientific programming, and computer hardware as basic to computer science. Sixty-nine to seventy-one (69/71) credit hours of work are required for graduation in this option.

FIRST SEMESTER		CREDIT	SECOND SEMESTER		CREDIT
EN4401	English Composition I	3	EN4402	English Composition II	3
	Math Elective*	4/5		Math Elective*	3/4
CT6633	Intro. Data Processing/BASIC	4	CT6622	FORTRAN	4
CT6601	Fundamentals of Digital Logic	3	ET6690	Microcomputers	4
ET6603	Digital Lab	1		Technical Elective***	4
TW6610	Keyboarding for Information Processing	1			
					18/19
		16/17			

THIRD SEMESTER		CREDIT	FOURTH SEMESTER		CREDIT
MA5506	Statistics	3	CT6661	Adv. Computer System Programming	4
CT6652	COBOL Programming	4		Technical Elective***	4
CT6651	Assembly Language Prog.	4		Social Science/Humanities Elective**	3
	Technical Elective***	4		Elective	3
	Humanities Elective	3		Social Science Elective	3
		18			17

*Acceptable sequence of Math electives are: MA5621 College Algebra & Trigonometry and MA5622 Advanced Algebra & Trigonometry; MA5621 College Algebra & Trigonometry and MA5673 Quantitative Methods; MA5621 College Algebra & Trigonometry and MA5691 Calculus I; MA5691 Calculus I and MA5692 Calculus II

**Particularly appropriate would be Speech, Reading Strategies, History of Science & Technology, Political Science, Cultural Anthropology and Human Relations

***Technical electives include Chemistry, Physics, Calculus, Differential Equations, any offering of the Department of Engineering and Technology

Corinne Grise Ext. 185
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Chairperson, Dept. of Engineering/Tech Studies

SEPTEMBER 1982

BUSINESS PROGRAMMING OPTION develops skills based on a strong background in mathematics, accounting and communications. Students wishing to transfer to a four-year college after receiving an associate degree in the Business Programming Option should consider a bachelor's degree in Business. Sixty-four to sixty-six (64/66) credit hours of work are required for graduation in this option.

PROGRAM PREREQUISITE

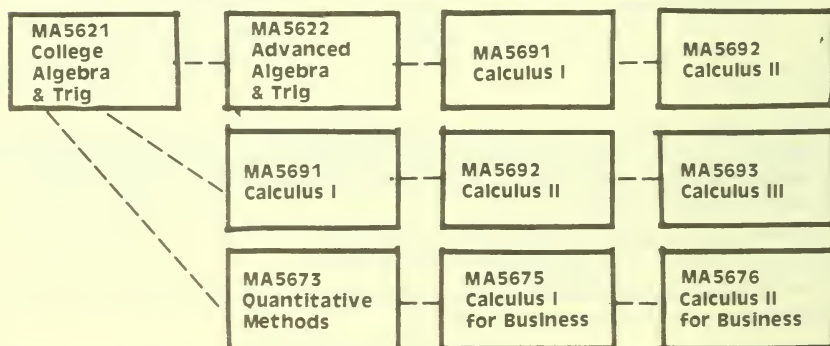
Two years of Algebra

FIRST SEMESTER		CREDIT	SECOND SEMESTER		CREDIT
EN4401	English Composition I	3	EN4402	English Composition II	3
	Math Elective*	4/5		Math Elective*	3/4
CT6633	Intro. Data Processing/BASIC	4	CT6611	RPG Programming	4
	Social Science Elective	3	AC6601	Introductory Accounting I	4
TW6610	Keyboarding for Information Systems	1		Humanities Elective	3
		15/16			17/18
THIRD SEMESTER		CREDIT	FOURTH SEMESTER		CREDIT
CT6652	COBOL Programming	4	CT6676	Business Systems Development & Design	4
CT6649	Assembly Programming for Business II	4	CT6653	Adv. Business Programming	4
AC6602	Introductory Accounting II	4	MA5506	Statistics	3
	Social Science/Humanities Elective**	3		Elective	3
		15			17

*Acceptable sequences of Math electives are: MA5621 College Algebra & Trigonometry and MA5622 Advanced Algebra & Trigonometry; MA5621 College Algebra & Trigonometry and MA5673 Quantitative Methods; MA5621 College Algebra & Trigonometry and MA5691 Calculus I; MA5691 Calculus I and MA5692 Calculus II (see charts below)

**Particularly appropriate would be Speech, Reading Strategies, History of Science & Technology, Political Science, Cultural Anthropology and Human Relations.

MATHEMATICS ELECTIVES Computer Technology: Business Option



NOTE: Students transferring to a four-year college should consider a bachelor's degree in Business.

Associate in Science Degree in CRIMINAL JUSTICE

Criminal Justice at Northern Essex is a program which describes and analyzes the various aspects of the criminal justice system. The curriculum is designed to take a systems approach in understanding the crime problem in the United States. The program is structured to prepare students for professional careers, whether they are pre-service or already working in the criminal justice field. It is recognized that a majority of criminal justice students continue their criminal justice education at four-year institutions. Consequently, the curriculum has a broad, academic orientation, facilitating transfer to four-year institutions. Sixty-two to sixty-five (62/65) credit hours of work are required for graduation.

FIRST SEMESTER		CREDIT	SECOND SEMESTER		CREDIT
EN4401	English Composition I	3	EN4402	English Composition II	3
PS1101	Introduction to Psychology	3		Math Elective*	3/4
SO3321	Introduction to Sociology	3	SO3353	Intro. to Criminology	3
CJ3601	Concepts of Criminal Law	3	CJ3607	Functions of Police in Modern Society	3
CJ3603	Intro. to Criminal Justice	3		Elective†	3
		15			15/16
THIRD SEMESTER		CREDIT	FOURTH SEMESTER		CREDIT
EN8011	Speech/Oral Communication	3	GV3315	Civil Rights & Liberties	3
GV3312	Intro. to Political Science	3	CJ3608	Intro. to Corrections	3
CJ3609	Criminal Court System	3		Elective†	3
PE2016	Foundations of Health/Fitness	2	CJ3670	Senior Seminar**	
CJ3667	Crisis Intervention in the Criminal Justice System	3	OR	OR	
	Natural Science Elective	3/4	CJ3672	Field Practicum	3
		17/18		Math/Natural Science Elective††	3/4
					15/16

***Unacceptable math courses:** MA5512 Math for Elementary Education Teachers, MA0500 Math for Early Childhood Education, MA0501 Developmental Mathematics

****Field Practicum** will apply to pre-service students, and the Senior Seminar will generally apply to in-service students.

†**Students must choose** two (2) humanities electives (in addition to Speech) in order to meet the requirements of the Commonwealth Transfer Compact. Courses other than humanities **may be** elected, but students interested in transferring are advised to check the requirements of the institution to which they seek to transfer. Humanities electives are: foreign languages, communications, philosophy, art, music, literature, religion and theatre.

††**Natural Science Electives:** courses should be selected from the following categories in the school catalog: biology, chemistry, earth science or science.

NOTE: additional credits in the second, third and fourth semesters are a result of the possibility of the student selecting a four-credit elective or requirement.

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Chairperson, Div. of Human Services and
Health Professions

George Stewart Ext. 158
Coordinator, Criminal Justice

SEPTEMBER 1982

Associate in Science Degree in EARLY CHILDHOOD EDUCATION

The Early Childhood Education associate degree program is career-oriented and trains students for a paraprofessional role in the field of early childhood education. How children grow, develop and learn will become more meaningful through course work, directed observation and through the study of the child both as an individual and as he functions in a variety of group settings. An integral part of this program is, therefore, the practicum placement which allows the student to apply theory and skills, under guidance and supervision, in a variety of classrooms and educational programs. The program also provides the foundation for further study in the field of early childhood education. All courses prefaced by "CC" are restricted to students accepted and enrolled in the Early Childhood Education program. Other students may elect these courses only with the permission of the Curriculum Coordinator. Sixty-five to sixty-six (65/66) credit hours of work are required for graduation.

PROGRAM PREREQUISITE

Letters of reference and a personal interview with the Curriculum Coordinator are required prior to acceptance

FIRST SEMESTER		CREDIT	SECOND SEMESTER		CREDIT
EN4401	English Composition I	3	EN4402	English Composition II	3
PS1101	Introduction to Psychology	3	PS1151	Child Psychology	3
BI5510	Human Biology	3	ED0401	Teaching Reading in Early Childhood	
CC2201	Intro. to Early Childhood Education	3		OR	
FA7012	Introduction to Creative Experience	3	ED0402	Teaching Reading Readiness	3
CC2311	Observation & Recording of Child Behavior	1	CC2312	Early Childhood Education Practicum I	3
		16	PE2293	Innovative Movement Experience: Child to Adult	2
				Natural Sci. Requirement	3/4
					17/18
THIRD SEMESTER		CREDIT	FOURTH SEMESTER		CREDIT
EN8011	Speech/Oral Communication	3	CC2364	Seminar in Early Childhood Education	3
PS2112	Problems in Early Childhood Education	3	MA0500	Mathematics for Early Childhood Education	3
CC2353	Early Childhood Education Practicum II	4	CC2354	Early Childhood Education Practicum III	4
	Humanities Elective*	3	PE2002	First Aid & Safety Elective***	3
	Sociology Elective**	3			16
		16			

*Course in one of the following areas: foreign languages, philosophy, art, music, literature, religion and theatre

**All courses prefixed "SO" in the catalog are sociology courses.

***Persons who wish to transfer to other colleges after graduation should elect courses which satisfy the requirements of those colleges and of the Commonwealth Transfer Compact.

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Chairperson, Div. of Human Services &
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Judith Tye Ext. 191
Coordinator, Early Childhood Education

SEPTEMBER 1982

Associate in Science Degree in EDUCATIONAL ASSISTANT

The Educational Assistant Associate Degree Program† provides training in basic principles of group and individual learning processes, the basic problems in learning, and the development of effective interpersonal relationships with the educational staff and students. Close relationships with schools in the area have been developed to give students progressively more involved classroom experiences in the roles of educational assistants, and to develop skills in assisting teachers in a wide variety of classroom and supportive educational activities. Sixty-four to sixty-six (64/66) credit hours of work are required for graduation.

†Currently offered in the Division of Continuing Education and Community Services only.

FIRST SEMESTER		CREDIT	SECOND SEMESTER		CREDIT
EN4401	English Composition I	3	EN4402	English Composition II	3
PS1151	Child Psychology	3	ED2212	Classroom Experience I*††	4
PS2114	Problems of the School-Age Child	3	PE2293	Innovative Movement Experiences: Child to Adult	2
ED2210	Intro. to Classroom Experience*††	1	FA7012	Introduction to Creative Experience	3
LS0131	Media Workshop	1	ED0403	Teaching Reading in the Elementary Grades	3
MA5512	Math for Elementary Education	3			
ED2244	Intro. to the Role of Educational Assistant	3			
		<hr/> 17			<hr/> 15
THIRD SEMESTER		CREDIT	FOURTH SEMESTER		CREDIT
EN8401	Children's Literature	3	ED2262	Education Seminar	3
ED2255	Classroom Experience II*††	4	ED2256	Classroom Experience III*††	4
EN1278	Teaching English as a Second Language**	3		Humanities/Fine Arts Elective§	3
	Behavioral/Social Science Elective§	3		Natural Science Elective	3/4
	Natural Science Elective	3/4	PE2002	First Aid & Safety	3
		<hr/> 16/17			<hr/> 16/17

*These courses are open to students matriculated in the Educational Assistant program only. Other students may elect these courses only with permission of the Curriculum Coordinator.

**If this course is not available, another humanities course may be chosen with the approval of the Curriculum Coordinator.

††Student assistants must be accepted by the practicum agency. Additionally, student assistants must comply with the guidelines set by the cooperating school and/or agency.

§One elective must be a behavioral/social science course in order to meet the guidelines of the Commonwealth Transfer Compact. Behavioral/social science courses include anthropology, psychology, sociology, history and government. The other elective must be a humanities/fine arts course in order to meet the guidelines of the transfer compact. Humanities/fine arts courses include foreign languages, communications, philosophy, art, music, literature, religion and theatre.

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Chairperson, Div. of Human Services & Health Professions	Coordinator, Educational Assistant

SEPTEMBER 1982

One-Year Certificate Program in EDUCATIONAL ASSISTANT: LANGUAGE COMMUNICATION AIDE OPTION

Language Communication Aide†, a one-year certificate option within the Educational Assistant program, is designed primarily to provide education and training for persons seeking entry level skills as paraprofessionals. The Communication Aide will have the skills to perform carry-over activities for persons with problems in any of the language communication areas. The Communication Aide will be able to perform support services for the classroom teacher, the learning disability and reading specialists, and the speech or language therapist. The graduate will be able to work perceptively with children having language disorders to provide knowledgeable follow-up of a prescribed learning program, complete direct carry-over activities, write progress reports and create instructional materials. Graduates will meet the guidelines of the American Speech and Hearing Association. The credits earned may be applied toward the degree requirements of the Language Communication Assistant associate degree program. Thirty-two (32) credit hours of work are required for the certificate.

†Currently offered in the Division of Continuing Education and Community Services only.

FIRST SEMESTER		CREDIT	SECOND SEMESTER		CREDIT
EN4401	English Composition I	3	EN4402	English Composition II	3
PS1151	Child Psychology	3	ED0403	Teaching Reading in the	
PS2114	Problems of the School-Age			Elementary Grades	3
	Child	3	ED2207	Intro. to Special Needs	
ED2203	Intro. to Language Com-			Children	3
	munications Disorders***	3	ED2212	Classroom Experience I*††	4
ED2210	Introduction to Classroom		ED2206	An Introduction to Speech	
	Experience*/**††	1		Disorders	3
ED2244	Intro. to the Role of the				
	Educational Assistant	3			
					16
		16			

*These courses are open to students enrolled in the program only. Other students may elect these courses only with the permission of the Curriculum Coordinator.

**The Curriculum Coordinator may recommend that this course be waived for persons with demonstrable and appropriate experience as an educational assistant. A one-credit course may be required in its place in order to earn the required number of credits for graduation.

***This course is a prerequisite to ED2206 Introduction to Speech Disorders.

††Student assistants must be accepted by the practicum agency. Additionally, student assistants must comply with the guidelines set by the cooperating school and/or agency.

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Health Professions

Lisette Kaplowitz Ext. 192
Coordinator, Educational Assistant

SEPTEMBER 1982

Associate in Science Degree in **EDUCATIONAL ASSISTANT:** **LANGUAGE COMMUNICATION ASSISTANT OPTION**

Language Communication Assistant†, an option within the Educational Assistant program, is designed to provide job entry skills, career exploration and transfer to bachelor degree programs. The Communication Assistant will be able to perform support services for the classroom teacher, the learning disability and reading specialists, and the speech and language therapist. The graduate will be able to work perceptively with children having language disorders, follow-up knowledgeably a prescribed program, complete direct carry-over activities, write progress reports and create instructional materials. Graduates will meet the guidelines of the American Speech and Hearing Association. Sixty-four to sixty-six (64/66) credit hours of work are required for graduation.

†Currently offered in the Division of Continuing Education and Community Services only.

FIRST SEMESTER		CREDIT	SECOND SEMESTER		CREDIT
EN4401	English Composition I	3	EN4402	English Composition II	3
PS1151	Child Psychology	3	ED2212	Classroom Experience I**††	4
PS2114	Problems of the School-Age Child	3	ED2203	Intro. to Language Communications Disorders***	3
ED2210	Intro. to Classroom Experience*†††	1	ED0403	Teaching Reading in the Elementary Grades	3
ED2244	Intro. to the Role of the Educational Assistant	3		Behavioral/Social Science Elective§	3
MA5512	Mathematics for Elementary Education	3			
					16

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THIRD SEMESTER		CREDIT	FOURTH SEMESTER		CREDIT
ED2255	Classroom Experience II*††	4	EN1278	Principles of Teaching English as a Second Language**	
	Natural Sci. Requirement	3/4			
ED2207	Intro. to Special Needs Children****	3	OR	OR	
EN8401	Children's Literature	3	ED2208	Strategies for Teaching Special Needs Children#	3
	Humanities/Fine Arts		ED2262	Education Seminar	3
	Elective§	3		Natural Sci. Requirement	3/4
			ED2256	Classroom Experience III*†	4
		16/17	ED2206	An Introduction to Speech Disorders	3

16/17

(continued)

***These courses are open** to students matriculated in the program only. Other students may elect these courses only with permission of the Curriculum Coordinator.

****If this course is not available**, another humanities course may be elected with permission of the Curriculum Coordinator.

*****This course is a prerequisite to** ED2206 Introduction to Speech Disorders.

******This course**, or permission of the instructor, is a prerequisite to ED2208 Strategies for Teaching Special Needs Children.

††Student assistants must be accepted by the practicum agency. Additionally, student assistants must comply with the guidelines set by the cooperating school and/or agency.

§One elective must be a behavioral/social science course in order to meet the guidelines of the Commonwealth Transfer Compact. Behavioral/social science courses include anthropology, psychology, sociology, history and government. The other elective must be a humanities/fine arts course in order to meet the guidelines of the transfer compact. Humanities/fine arts courses include foreign languages, communications, philosophy, art, music, literature, religion and theatre.

#Students choosing this course will not meet the distribution requirements of the Commonwealth Transfer Compact.

NOTE:ED2260 Intensive Classroom Experience may be taken in place of ED2212, ED2255 or ED2266 with permission of the Curriculum Coordinator. Students wishing to concentrate in working with special needs children should choose ED2207 and ED2208. It is important to consult with the Curriculum Coordinator in choosing courses to be certain that the proper course sequence is maintained.

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Health Professions			

Associate in Science Degree in ELECTRONIC TECHNOLOGY

The Electronic Technology associate degree program is designed primarily to equip students for employment (often as an engineering assistant) with immediately marketable skills in electronic technology, both analog and digital. This curriculum concentrates on developing complex, interdependent electronic techniques. Heavy emphasis is put on use of state-of-the-art devices and laboratory equipment, and the preparing of complete, analytical laboratory reports. Recently, Bachelor of Engineering Technology programs have been developed nation-wide and the student who plans to continue education at a four-year institution should consider these new programs. Sixty-eight to sixty-nine (68/69) credit hours of work are required for graduation.

PROGRAM PREREQUISITE

Two years of Algebra
Geometry and Trigonometry helpful, but not required

FIRST SEMESTER		CREDIT	SECOND SEMESTER		CREDIT
EN4401	English Composition I	3	EN4402	English Composition II	3
MA5621	Algebra & Trigonometry	4	MA5622	Advanced Algebra & Trig.	4
ET6611	Circuit Analysis I	4	ET6612	Circuit Analysis II	4
CT6601	Fundamentals of Digital Logic	3	ET6672	Electronics I	5
CT6603	Digital Electronics Lab	1		Liberal Arts Elective	3
		<hr/> 15			<hr/> 19
THIRD SEMESTER		CREDIT	FOURTH SEMESTER		CREDIT
ET6673	Electronics II	5	ET6684	Electronic Systems	4
PI5621	Applied Physics I	4	PI5622	Applied Physics II	4
	Technical Elective*	4		Liberal Arts Elective	3
	Technical Elective*	4		Technical Elective**	3/4
		<hr/> 17		Elective	3
					<hr/> 17/18

***THIRD SEMESTER TECHNICAL ELECTIVES:** ET6682 Digital Electronics, CT6651 Assembly Language Programming, ET6653 Circuit Analysis III, MA5651 Calculus for Technology, MA5691 Calculus I.

****FOURTH SEMESTER TECHNICAL ELECTIVES:** ET6690 Microcomputers, MA5652 Advanced Calculus for Technology, MA5692 Calculus II, CT6635 BASIC Programming I, II, III, CT6622 FORTRAN Programming, CT6682 Computer Applications in Engineering & Technology.

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SEPTEMBER 1982

Associate in Science Degree in ENGINEERING SCIENCE

The Engineering Science associate degree program is designed to prepare an engineering student for transfer to a four-year college or university. A core curriculum has been developed in cooperation with the American Association for Engineering Education and engineering divisions of several four-year institutions. The core curriculum allows the student an opportunity to explore various engineering fields equipping him/her to choose the field of specialization best suited to his/her interests and abilities. The fields of engineering include chemical, industrial, electrical, civil and mechanical. A strong background in mathematics is required. Sixty-nine (69) credit hours of work are required for graduation.

PROGRAM PREREQUISITE

Two years of Algebra, Geometry, Trigonometry,
One year of Physics or Chemistry

FIRST SEMESTER		CREDIT	SECOND SEMESTER		CREDIT
EN4401	English Composition I	3	EN4402	English Composition II	3
MA5691	Calculus I	5	MA5692	Calculus II	4
	Elective*	3/4	PI5623	Engineering Physics I	4
ET6601	Graphics	2		Elective*	3
	Communications Elective	3		Elective*	3
		<hr/> 16/17			<hr/> 17
THIRD SEMESTER		CREDIT	FOURTH SEMESTER		CREDIT
MA5693	Calculus III	4		Technical Elective**	4
PI5624	Engineering Physics II	4		Technical Elective**	3/4
ET6651	Engineering Mechanics I	3	PI5651	Engineering Physics III	4
	Technical Elective**	4		Technical Elective**	4
	Elective*	3		Elective*	3
		<hr/> 18			<hr/> 18/19

***STATEMENT ON ELECTIVES:** A minimum of nine semester hours of electives must be taken in humanities or the social sciences. During the first semester, the student should contact the college to which he/she plans to transfer and then select both technical and general electives to fulfill his/her transfer goals. Proposed technical electives from outside the lists below will be considered, but must be approved by the Chairperson, Department of Engineering and Technical Studies.

(continued)

****SUGGESTED TECHNICAL ELECTIVES** for various engineering branches (this list is not be be considered complete):

CIVIL ENGINEERING:Micro-Economics and Macro-Economics, Surveying I and II, Differential Equations, FORTRAN Programming, Computer Applications in Engineering and Technology, Chemistry I and II, Strength of Materials, Engineering Mechanics II.

ELECTRONIC/ELECTRICAL ENGINEERING: Micro-Economics and Macro-Economics, Differential Equations, FORTRAN Programming, Computer Applications in Engineering and Technology, Strength of Materials, Fundamentals of Digital Logic, Networks I and II, Engineering Mechanics II, Chemistry I and II.

MECHANICAL ENGINEERING: Micro-Economics and Macro-Economics, Engineering Mechanics II, Differential Equations, FORTRAN Programming, Computer Applications in Engineering and Technology, Circuit Analysis I and II, Networks I and II, Chemistry I and II, Strength of Materials.

ENVIRONMENTAL ENGINEERING: Micro-Economics and Macro-Economics, FORTRAN Programming, Computer Applications in Engineering and Technology, Introductory Biology, Microbiology, Chemistry I and II.

CHEMICAL ENGINEERING: Introductory Chemistry I and II, General Chemistry I and II, Special Topics in Chemistry, Micro-Economics and Macro-Economics, FORTRAN Programming, Computer Applications in Engineering and Technology.

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SEPTEMBER 1982

Associate in Science Degree in EXECUTIVE SECRETARIAL

The purpose of the Executive Secretarial associate degree program is to train students to assume high-level secretarial positions on the administrative and executive levels. The two-year curriculum offers a balanced program of academic and technical courses leading to specialization in the executive secretarial area. The college-educated secretary finds a wide variety of opportunities in every business and in every profession. Sixty to sixty-one (60/61) credit hours of work are required for graduation.

FIRST SEMESTER		CREDIT	SECOND SEMESTER		CREDIT
EN4401	English Composition I	3	EN4402	English Composition II	3
AC6691	Elements of Accounting I	3	AC6692	Elements of Accounting II	3
	Shorthand*	3		Shorthand*	3
	Typewriting I, II or III**	3		Typewriting II, III or IV**	3
	Liberal Arts Elective	3	PS1101	Introduction to Psychology	3
		15			15

THIRD SEMESTER		CREDIT	FOURTH SEMESTER		CREDIT
SH6671	Intro. Shorthand Dictation & Transcription		SH6672	Advanced Shorthand Dictation & Transcription	
OR	OR		OR	OR	
SH6672	Advanced Shorthand Dictation & Transcription	3	SH6673	Expert Shorthand Dictation & Transcription	3
SL6661	Office Administration I	3	LW6651	Business Law I	3
TW6631	Typewriting III			Speech or Literature	3
	OR			Liberal Arts Elective	3
	Secretarial Science Elective	3		Secretarial Science Elective	3
	Secretarial Science Elective	3			15
	Natural Science Elective	3/4			
		15/16			

*Choose among SH6621 Principles of Shorthand, SH6622 Intermediate Shorthand, SH6671 Introductory Shorthand Dictation & Transcription.

**Choose appropriate course after consultation with departmental advisor.

SECRETARIAL SCIENCE ELECTIVES: TW6632 Typewriting IV, SL6666 Introduction to Word Processing, AC6694 Simulation in Accounting, SL6668 Secretarial Field Experiences, SH6623 Machine Shorthand, TW6641 Technical Typewriting, SH6679 Legal Dictation and Transcription I, SK6653 Machine Transcription, CT6633 Introduction to Data Processing/BASIC.

SPANISH BI-LINGUAL CONCENTRATION

A bi-lingual secretarial concentration in Spanish may be elected with approval of the Division Chairperson. Appropriate courses in Spanish together with a course in Cooperative Education in the bi-lingual area are required.

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Jean Poth Ext. 268
Chairperson, Dept. of Office & Business Education

SEPTEMBER 1982

Associate in Science Degree in EXECUTIVE SECRETARIAL: ACCOUNTING OPTION

The Executive Secretarial associate degree program with Accounting Option offers an intensive preparation in the field of applied accounting as well as in secretarial skills. Business offices such as insurance firms, banks, real estate offices and mercantile establishments employ secretaries with accounting background and skills. Promotional opportunities to executive and managerial positions are especially prevalent for graduates with a strong combination of secretarial and accounting skills. Sixty to sixty-one (60/61) credit hours of work are required for graduation.

FIRST SEMESTER		CREDIT	SECOND SEMESTER		CREDIT
EN4401	English Composition I	3	EN4402	English Composition II	3
AC6691	Elements of Accounting I	3	AC6692	Elements of Accounting II	3
	Shorthand*	3		Shorthand*	3
	Typewriting I, II or III**	3		Typewriting II, III or IV**	3
	Liberal Arts Elective	3	PS1101	Introduction to Psychology	3
		15			15
THIRD SEMESTER		CREDIT	FOURTH SEMESTER		CREDIT
SH6671	Intro. Shorthand Dictation & Transcription		SH6672	Advanced Shorthand Dictation & Transcription	
	OR			OR	
SH6672	Advanced Shorthand Dictation & Transcription	3	SH6673	Expert Shorthand Dictation & Transcription	
SL6661	Office Administration I	3		OR	
TW6631	Typewriting III			Secretarial Science Elective	3
	OR		AC6694	Simulation in Accounting	3
	Group A Elective***	3		Speech or Literature	3
AC6693	Elements of Accounting III	3		Liberal Arts Elective	3
	Natural Science Elective	3/4		Group A Elective***	3
		15/16			15

*Choose among SH6621 Principles of Shorthand, SH6622 Intermediate Shorthand, SH6671 Introductory Shorthand Dictation & Transcription

**Choose appropriate course after consultation with departmental advisor.

***GROUP A ELECTIVES: LW6651 Business Law I, AC6671 Cost Accounting, AC6682 Tax Accounting, MG6676 Personnel Management, FI6651 Principles of Insurance, FI6663 Principles of Real Estate, and all electives listed as Secretarial Science Electives with the Executive Secretarial curriculum.

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SEPTEMBER 1982

Associate in Science Degree in EXECUTIVE SECRETARIAL: LEGAL OPTION

The Executive Secretarial associate degree program with Legal Option provides the opportunity for students to achieve not only superior secretarial skills to assume high-level, executive secretarial positions, but gives preparation for responsible positions in the legal field. The background necessary for a legal secretary is provided by courses in business law as well as courses in legal terminology and law office duties. Sixty to sixty-one (60/61) credit hours of work are required for graduation.

FIRST SEMESTER		CREDIT	SECOND SEMESTER		CREDIT
EN4401	English Composition I	3	EN4402	English Composition II	3
AC6691	Elements of Accounting I	3	AC6692	Elements of Accounting II	3
	Shorthand*	3		Shorthand*	3
	Typewriting I, II or III**	3		Typewriting II, III or IV**	3
	Liberal Arts Elective	3	PS1101	Introduction to Psychology	3
		15			15
THIRD SEMESTER		CREDIT	FOURTH SEMESTER		CREDIT
SH6671	Intro. Shorthand Dictation & Transcription		SH6691	Legal Dictation & Transcription II	3
OR	OR		LW6652	Business Law II	3
SH6672	Advanced Shorthand Dictation & Transcription	3		Speech or Literature	3
LW6651	Business Law I	3		Natural Science Elective	3/4
SH6679	Legal Dictation & Transcription I	3		Liberal Arts Elective	3
SK6661	Office Administration I	3			15/16
	Typewriting III OR				
	Secretarial Sci. Elective***	3			
		15			

*Choose among SH6621 Principles of Shorthand, SH6622 Intermediate Shorthand, SH6671 Introductory Shorthand Dictation & Transcription.

**Choose appropriate course after consultation with departmental advisor.

*Secretarial Science Electives e listed with the Executive Secretarial curriculum.

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SEPTEMBER 1982

Associate in Science Degree in EXECUTIVE SECRETARIAL: MEDICAL OPTION

The Executive Secretarial associate degree program with Medical Option provides an intensive program of academic and secretarial science courses combined with medical courses as preparation for employment in medical offices and other businesses directly related to the practice of medicine. The course material emphasizes medical terminology, medical transcription and office procedures, as well as secretarial skills in stenography. Sixty-three to sixty-four (63/64) credit hours of work are required for graduation.

FIRST SEMESTER		CREDIT	SECOND SEMESTER		CREDIT
EN4401	English Composition I	3	EN4402	English Composition II	3
AC6691	Elements of Accounting I	3	AC6692	Elements of Accounting II	3
	Shorthand*	3		Shorthand*	3
	Typewriting I, II or III**	3		Typewriting II, III or IV	3
	Liberal Arts Elective	3	PS1101	Introduction to Psychology	3
		15			15
THIRD SEMESTER		CREDIT	FOURTH SEMESTER		CREDIT
SH6671	Intro. Shorthand Dictation & Transcription		SH6672	Advanced Shorthand Dictation & Transcription	
OR	OR		OR	OR	
SH6672	Advanced Shorthand Dictation & Transcription	3	SH6673	Expert Shorthand Dictation & Transcription	
SL6661	Office Administration I	3	OR	OR	
TW6631	Typewriting III OR			Secretarial Sci. Elective***	3
	Secretarial Sci. Elective***	3	SL6680	Medical Office Administration I	3
MR6605	Medical Terminology I	3	SH6677	Medical Dictation & Transcription	3
	Natural Science Elective: (Human Biology)	3/4		Speech or Literature	3
		15/16		Liberal Arts Elective	3
			MR6606	Medical Terminology II	3
					18

*Choose among SH6621 Principles of Shorthand, SH6622 Intermediate Shorthand, SH6671 Introduction to Shorthand Dictation & Transcription.

**Choose appropriate course after consultation with departmental advisor.

***Secretarial Science Electives are listed with the Executive Secretarial curriculum.

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SEPTEMBER 1982

Associate in Science Degree in EXECUTIVE SECRETARIAL TECHNICAL OPTION

The Executive Secretarial associate degree program with Technical Option† is designed for students who wish to prepare for high-level positions in the secretarial field. In addition, this option enables the student to acquire the knowledge and skills needed for employment in technical offices relating to the fields of science and engineering. Sixty to sixty-one (60/61) credit hours of work are required for graduation.

†Availability of this option is dependent upon sufficient student enrollment.

FIRST SEMESTER		CREDIT	SECOND SEMESTER		CREDIT
EN4401	English Composition I	3	EN4402	English Composition II	3
AC6691	Elements of Accounting I	3	AC6692	Elements of Accounting II	3
	Shorthand*	3		Shorthand*	3
	Typewriting I, II or III**	3		Typewriting II, III or IV**	3
	Liberal Arts Elective	3	PS1101	Introduction to Psychology	3
		15			15
THIRD SEMESTER		CREDIT	FOURTH SEMESTER		CREDIT
SH6671	Intro. Shorthand Dictation & Transcription		SH6643	Technical Dictation & Transcription	3
OR	OR		TW6641	Technical Typewriting	3
SH6672	Advanced Shorthand Dictation & Transcription	3		Speech or Literature	3
SH6641	Technical Stenography	3		Liberal Arts Elective	3
	Typewriting III OR			Secretarial Sci. Elective***	3
	Secretarial Sci. Elective***	3			15
	Natural Science Elective	3/4			
SL6661	Office Administration	3			
		15/16			

*Choose among SH6621 Principles of Shorthand, SH6622 Intermediate Shorthand, SH6671 Introductory Shorthand Dictation & Transcription.

**Choose appropriate course after consultation with departmental advisor.

***Secretarial Science Electives are listed with the Executive Secretarial curriculum.

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SEPTEMBER 1982

Associate in Science Degree in FOOD SERVICE MANAGEMENT

The Food Service Management associate degree program provides a broad academic background and business management education as well as practical and related instruction and experience in all phases of food service operation and management. Graduates will be qualified for entry management positions in one of the largest industries in the country. Opportunities are available in restaurants, hospitals, schools, industry and private business for restaurant managers, merchandising managers, training directors, food service managers and others. The program is offered jointly by Northern Essex Community College and the Greater Lawrence Regional Technical Institute. All classroom courses are held on the college campus. Laboratory courses and the clinical experience are located at the regional institute. Sixty-six (66) credit hours of work are required for graduation.

FIRST SEMESTER		CREDIT	SECOND SEMESTER		CREDIT
EN4401	English Composition I	3	EN4402	English Composition II	3
AC6601	Introductory Accounting I	4	AC6602	Introductory Accounting II	4
MA5613	Mathematics of Finance	3	MK6678	Marketing	3
FS6601	Introduction to Food		FS6602	Food Service Operation I*	4
	Services Industry*	4		Liberal Arts Elective**	3
	Liberal Arts Elective**	3			
		17			17

SUMMER SESSION

An eight-week summer work experience within the food service industry is required. As an alternative, other time periods within the college year may qualify. Acceptable completion of a report on work experience is an essential aspect in meeting this requirement. In no event shall work experience prior to student enrollment in the program satisfy this requirement.

THIRD SEMESTER		CREDIT	FOURTH SEMESTER		CREDIT
LW6651	Business Law I	3	EC3652	Survey of Economics	3
	Natural Science Elective	3	MG6676	Personnel Management	3
FS6625	Food Service Management I	3	FI3652	Business Finance	3
	Elective**	3		Elective**	3
FS6611	Food Service Operations II*	4	FS6612	Food Service Operations III*	3
		16			16

*Students may receive credit for one or more courses in Food Service upon recommendation and certification of the Curriculum Coordinator at the Greater Lawrence Regional Technical Institute.

**RECOMMENDED ELECTIVES: CT6633 Introduction to Data Processing/BASIC, EN8011 Speech, PS1101 Introduction to Psychology, HI9903 American Civilization, SO3324 Cultural Anthropology and any Government, Literature or Sociology course.

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Chairperson, Dept. of Business
Administration

SEPTEMBER 1982

Associate in Science Degree in GERONTOLOGY

The Gerontology associate degree program is a career program designed for those interested in working with older persons. It offers students of all ages and backgrounds paraprofessional job entry skills for a wide variety of elder service programs, and a solid academic preparation which can transfer to a bachelor degree program. This program is option one of the interdivisional Gerontology offerings. Sixty-one to sixty-three (61/63) credit hours of work are required for graduation.

FIRST SEMESTER		CREDIT	SECOND SEMESTER		CREDIT
EN4401	English Composition I	3	EN4402	English Composition II	3
PS1101	Introduction to Psychology	3	SO3356	Psychosocial Aspects of Aging	3
GR6653	Introduction to Gerontology	3	PS4354	Human Relations	3
	History/Government Elective	3		History/Government Elective	3
	Humanities Elective*	3		Humanities Elective*	3
		15			15
THIRD SEMESTER		CREDIT	FOURTH SEMESTER		CREDIT
	Natural Science Elective	3/4		Natural Science Elective	3/4
GR6561	Practicum I**	4	GR6562	Practicum II**	4
GR6556	Law, Advocacy and Aging	3		Math Elective	3
	Humanities Elective*	3		Free Elective	3
	Free Elective	3		Free Elective	2
		16/17			15/16

*Any course offered by the departments of English, Creative Arts, Philosophy, Religion and Foreign Languages.

**In some instances, the Curriculum Coordinator may recommend that a suitable course be substituted for one or both of the practicums for persons who have had significant, demonstrable experience working with elders. Practicum courses will be limited to students enrolled in the Gerontology program.

NOTE: Students planning to transfer to colleges offering a baccalaureate degree are advised to consult the course requirements of the colleges in which they are interested when selecting electives. Students completing this program will be eligible for transfer under the provisions of the Commonwealth Transfer Compact.

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Coordinator, Gerontology

SEPTEMBER 1982

One-Year Certificate Program in GERONTOLOGY

The one-year certificate program in Gerontology is designed to offer a core of Gerontology courses to professionals and paraprofessionals of all ages who wish to upgrade their skills and knowledge in this emerging and challenging field. Thirty-two to thirty-three (32/33) credit hours of work are required for the certificate.

FIRST SEMESTER		CREDIT	SECOND SEMESTER		CREDIT
EN4401	English Composition I	3	EN4402	English Composition II	3
GR6553	Introduction to Gerontology	3	SO3356	Psychosocial Aspects of Aging	3
GR6556	Law Advocacy and Aging	3	GR6562	Practicum II*	4
GR6561	Practicum I*	4	PS4354	Human Relations	3
	Natural Science Elective	3/4		Elective	3
		16/17			16

***In some instances**, the Curriculum Coordinator may recommend that a suitable course be substituted for one of the practicums for persons who have had significant, demonstrable experience working with elders. Practicum courses will be limited to students enrolled in the Gerontology program.

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SEPTEMBER 1982

Associate in Science Degree in INTERPRETER TRAINING

The Interpreter Training associate degree program is designed to provide students with a broad based educational experience based on a balance and diversity of general education, sign language and interpreting courses. Students are provided the opportunity to develop an understanding of the profession of interpreting for deaf and hearing individuals and the knowledge, attitude and skills necessary to function as professional interpreters in a variety of settings. The program also provides for career exploration within the field of deafness and the basic academic preparation for possible transfer to bachelor degree programs. Sixty-four to sixty-six (64/66) credit hours of work are required for graduation.

FIRST SEMESTER		CREDIT	SECOND SEMESTER		CREDIT
IN1001	Sign Language I	4	IN1002	Sign Language II	4
IN1010	Orientation to Deafness	3	PS1355	Deafness: Individual & Society	3
EN5000	Introduction to Language	3	IN1030	Intro. to Interpreting Field	3
	Science Elective**	3/4	IN1040	Observation Practicum	1
PS1101	Introduction to Psychology	3	EN4401	English Composition I	3
			TH7785	Mime	3
		<hr/> 16/17			<hr/> 17

THIRD SEMESTER		CREDIT	FOURTH SEMESTER		CREDIT
IN2003	Sign Language III	4	IN2032	Interpreting II	3
IN2031	Interpreting I	3	IN2041	Practicum II	3
IN2040	Practicum I	3		Science Elective**	3/4
EN4402	English Composition II	3		Elective*	3
	Math Elective	3		Elective*	3
		<hr/> 16			<hr/> 15/16

***Students must choose** at least 3 additional credits in the areas of Humanities and Social Sciences in order to meet the distribution requirements of the Commonwealth Transfer Compact. Students who wish to transfer to other colleges after graduation should elect courses which satisfy the requirements of those colleges and/or the Commonwealth Transfer Compact.

****Students may choose** any laboratory or non-laboratory Science course. (Laboratory science courses recommended for students intending to transfer.)

NOTE: The Interpreter Training courses must be taught in sequence as skills are developmental.

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Coordinator, Interpreter Training

SEPTEMBER 1982

Certificate Program in INTERPRETER TRAINING

The Interpreter Training certificate program is designed to provide the students with an opportunity to develop an understanding of the profession of interpreting for deaf and hearing individuals and the knowledge, attitude and skills necessary to function as professional interpreters in a variety of settings. The program also provides for career exploration within the field of deafness. Credits earned in the Certificate Program may be applied toward Associate Degree requirements in Interpreter Training. Forty (40) credit hours of work are required for the certificate.

FIRST SEMESTER		CREDIT	SECOND SEMESTER		CREDIT
IN1001	Sign Language I	4	IN1002	Sign Language II	4
IN1010	Orientation to Deafness	3	IN1030	Intro. to Interpreting Field	3
EN5500	Introduction to Language	3	IN1040	Observation Practicum	1
PS1101	Introduction to Psychology	3	PS1355	Deafness: Individual & Society	3
		13			11
THIRD SEMESTER		CREDIT	FOURTH SEMESTER		CREDIT
IN2003	Sign Language III	4	IN2032	Interpreting II	3
IN2031	Interpreting I	3	IN2041	Practicum II	3
IN2040	Practicum I	3			6

NOTE: The Interpreter Training courses must be taught in sequence as skills are developmental. In order to obtain the certificate, students must take all the Interpreter Training courses plus the three General Education courses designated in the above outline.

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Health Professions

William Huston Extension 215
Coordinator, Interpreter Training

SEPTEMBER 1982

Associate in Arts Degree in **LIBERAL ARTS**

Chester Hawrylcw Extension 255	Corinne Grise..... Extension 183
Chairperson, Div. of Humanities & Communication	Chairperson, Div. of Mathematics, Science & Technology
Usha Sellers Extension 294	
Chairperson, Div. of Social Sciences	

Liberal Arts students complete minimum requirements in the seven specific areas listed below. The associate degree in Liberal Arts requires forty-four (44) credit hours of work in CORE REQUIREMENTS plus sixteen (16) credit hours of work in ELECTIVE COURSES - a total of sixty (60) credits for graduation.

CORE REQUIREMENTS **44 Credits**

Composition I and II	6 credits
Behavioral Sciences*	6 credits
Foreign Languages/Philosophy/Religion/Creative Arts	6 credits
History/Government/Political Science	6 credits
Literature**	6 credits
Mathematics***	6 credits
Natural Science.....	8 credits

***All courses offered** in anthropology, psychology and sociology.

****Any course offered** by the Department of English which includes the word "literature" anywhere in the course title.

*****Any math course** except the following: MA0020 Basic Mathematics, MA0030 Basic Algebra, MA0500 Mathematics for Early Childhood Education, MA0501 Developmental Mathematics, MA5512 Mathematics for Elementary Education, MA5513 Mathematics of Finance.

FREE ELECTIVES **16 Credits (or more)**

Free electives include any course offered by the Departments of English; Foreign Languages; Philosophy and Religion; Creative Arts; History and Government; Behavioral Sciences; Mathematics; and Natural Sciences. Students may also take up to 3 credits in the Department of Sport and Leisure Studies and/or* up to 6 credits in courses offered by any other department in the college. (Additional electives in other areas must be approved in advance by the Dean of Students and the Liberal Arts chairpersons.)

***Students may take** up to sixteen (16) credits in courses offered by any other department of the college if they are identified as being enrolled in an approved Liberal Arts Degree Concentration.

PLANNING YOUR LIBERAL ARTS PROGRAM

In order to help students focus their Liberal Arts studies more effectively and choose courses which meet their individual needs and interests, Northern Essex has developed a number of suggested approaches to the scheduling of courses in the Liberal Arts program. These include the Cluster Program, Course Concentrations, Degree Concentrations and the Part-Time Studies Program. Students can design their own program of study with help from faculty advisors, with particular attention to specific courses they will need for transfer.

CLUSTER PROGRAM

First semester Liberal Arts students may elect to participate in the Cluster Program. This program offers four or five essential Liberal Arts courses in a time schedule that groups classes compactly in four different time plans. Cluster students attend classes as an integrated group, fostering sharing of mutual academic concerns and a peer support system; may be assigned an academic advisor who is also one of their teachers; and are in close contact with faculty members interested in an educational approach which coordinates learning experiences through close cooperation and the interrelating of ideas and academic skills. For information on specific clusters for each semester, students should contact the chairpersons of the divisions of Social Sciences and Humanities/Communications, or the Office of Counseling.

DAYTIME PART-TIME STUDIES PROGRAM

This program offers a special schedule of regularly offered Day Division college courses, many of which conveniently **meet once each week**. All credits earned from these courses may be applied towards a degree at Northern Essex Community College or be transferred to another college. The majority of courses meet during the morning from 9:00 to 11:45 A.M. or in the afternoon from 12:00 to 2:45 P.M. Participants in the Part-Time Studies Program have the advantage of a one-step, simplified admission/registration procedure. In addition, they have the opportunity to elect a pro-rated tuition plan and may choose to register for up to ten credits (three courses). For further information you are encouraged to contact the Director of Admissions.

DEGREE CONCENTRATIONS

Students matriculated in the Liberal Arts program may take up to sixteen (16) credits offered by any other department in the college if they are identified as being enrolled in an approved Liberal Arts Degree Concentration. The following Degree Concentrations are currently available:

Degree Concentration in GERONTOLOGY

For general Liberal Arts students who want a degree in Liberal Arts and an opportunity to explore Gerontology as a possible career choice.

FIRST SEMESTER		CREDIT	SECOND SEMESTER		CREDIT
EN4401	English Composition I	3	EN4402	English Composition II	3
PS1101	Introduction to Psychology	3	SO3356	Psychosocial Aspects of Aging	3
GR6653	Intro. to Gerontology	3	PS4354	Human Relations	3
	History/Government Elective	3		History/Government Elective	3
	Humanities Elective	3		Humanities Elective	3
		<hr/>			<hr/>
		15			15
THIRD SEMESTER		CREDIT	FOURTH SEMESTER		CREDIT
	Natural Science Elective	4		Natural Science Elective	4
GR6551	Practicum I	4	GR6562	Practicum II	4
GR6556	Law, Aging & Advocacy	3		Math Elective	3
	Math Elective	3		Literature Elective	3
	Literature Elective	3			<hr/>
		<hr/>			14
		17			

Degree Concentration in PHYSICAL EDUCATION/RECREATION

The Department of Sport and Leisure Studies and the Liberal Arts divisions offer a two-track concentration in both physical education and recreation within the Liberal Arts program. The two-track option, one in physical education and one in recreation, is designed to meet the individual needs and career goals in the broad fields of both recreation and physical education. There is enough built-in flexibility within the two tracks to allow the students an opportunity to explore the various career alternatives within the whole range of leisure services. Students will also have an opportunity to transfer to Leisure Service programs at the baccalaureate level.

TRACK 1: Physical Education Option

REQUIREMENTS	CREDITS
PE2001 Introduction to Physical Education	3
PE2016 Foundations of Health & Fitness	2
PE2293 Innovative Movement Experience	2
*SKILLS: Elect 2 of the following 1 or 2-credit courses	2/4
PE1027 Tennis	PE1002 Archery
PE1021 Senior Life Saving	PE1018 Dance
PE1014 Golf	PE1004 Badminton
PE1009 Fencing	PE1050 Racquetball
PE1042 Jogging	
ELECTIVES: Elect 1 of the following 3-credit courses	3
PE2015 Contemporary Health Issues	PE2007 Camp Counseling
PE2002 First Aid and Safety	PE2050 Self-Awareness
*or another appropriate skills course approved by the Department Chairperson.	

TRACK 2: Leisure & Recreation Option

REQUIREMENTS	CREDITS
PE2002 Introduction to Outdoor Education	3
PE2016 Foundations of Health & Fitness	2
PE2017 Leisure & Aging	2
*SKILLS: Elect 2 of the following 1 or 2-credit courses	2/4
PE1039 Rock Climbing	PE1011 Fly Fishing
PE1008 Canoeing	PE1038 Cross-Country Skiing
PE1052 Mountaineering	PE1018 Dance
PE1002 Archery	PE1021 Senior Life Saving
PE1042 Jogging	
ELECTIVES: Elect 1 of the following 3-credit courses	3
PE2018 Intramural Administration & Planning	
	PE2007 Camp Counseling
PE2002 First Aid and Safety	PE2050 Self-Awareness
* or another appropriate skills course approved by the Department Chairperson.	

COURSE CONCENTRATIONS

Students may select a special Course Concentration within the Liberal Arts program. Each concentration recommends a two-year sequence of study which fulfills core requirements for graduation, provides a focus for pre-major study, is transferable to a four-year baccalaureate program, and provides some career possibilities. The following Course Concentrations are currently available.

Course Concentration in CREATIVE ARTS

Explore your interest in DANCE, MUSIC, THEATRE or ART. You may select introductory and specialized courses in each of these areas. Drama, dance and musical productions are presented each year, offering an excellent opportunity for practical experience.

FIRST SEMESTER		CREDIT	SECOND SEMESTER		CREDIT
EN4401	English Composition I	3	EN4402	English Composition II	3
HI9901	Western Civilization I	3	EN9902	Western Civilization II	3
FA7020	Intro to Creative Arts	3		Elective (Art, Dance	
EN8861	Western Literature I	3		Music, Theatre)*	3
	Elective (Art, Dance		EN8862	Western Literature II	3
	Music, Theatre)*	3		Free Elective**	3
		15			15
THIRD SEMESTER		CREDIT	FOURTH SEMESTER		CREDIT
	Science Elective	4		Science Elective	4
	Elective (Art, Dance			Elective (Art, Dance	
	Music, Theatre)*	3		Music, Theatre)*	3
HU4000	Introduction to Humanities	3	SO3324	Cultural Anthropology	3
	Math Elective	3		Math Elective	3
	Behavioral Science Elective	3		Free Elective**	3
		16			16

***Students must take** at least three credits in each of the following areas:

DANCE: Dance Composition, Dance in Performance, Modern Dance I and II, Ballet I and II

THEATRE: Introduction to Theatre, Acting, Mime

VISUAL ARTS: Introduction to Art, Painting, Drawing

MUSIC: Introduction to Music, History of Jazz, Music Reading

****Free Electives:** Free electives include any course offered by the departments of English, Foreign Languages/Philosophy/Religion, Creative Arts, History and Government, Behavioral Sciences, Mathematics, Natural Sciences and Business. Students may also take up to three (3) credits in the Department of Sport and Leisure Studies and/or up to six (6) credits in courses offered by any other department in the college.

For more information on this concentration, contact Professor Elaine Mawhinney-Webb at Extension 214.

Course Concentration in DANCE

“As long as man is responsive to the forces of life and the universe, there will be dance.”

Margaret H'Doubler

The Dance program exists to foster a love of movement, to provide greater awareness of one’s body, to encourage integration and harmony of mind and potential as experienced in movement, and to provide the background in technique necessary to realize these goals.

Recommended courses for Concentration:

COURSE	CREDITS
PE1018 Modern Dance I	1
PE1049 Modern Dance II	1
FA7091 Dance in Performance	3
FA7934 Dance Composition	2
FA7093 Readings in Modern Dance	1
PE1057 Ballet I	1
PE1058 Ballet II	1
FA7092 Ballet in Performance	3

STILL POINT: The high point of the Dance program is the annual spring dance performance, Still Point. This production combines many areas of dance: modern, jazz, African.

DANCE CLUB: The Dance Club exists for the purpose of providing physical and creative expression and an awareness of the joy of movement. It encourages participation by faculty and alumni as well as students. Dance Club members also participate in Still Point. The Still Point Dancers, the dance company of the college, are part of the Dance Club. They perform in area schools and participate in various community and college activities.

CAREERS IN DANCE:

Teaching: private, early childhood, elementary, secondary, college

Choreography: theatre, general production work

Dance Therapy: day care centers, family treatment centers, correctional facilities, drug addition centers, halfway houses, out-patient clinics, special schools and camps for exceptional children, nursing homes, institutions for the mentally retarded, psychiatric facilities

Recording Dance: film and tape, general notation

Production: stage manager, lighting, costuming, audio, makeup, scenic design, publicity.

Contact Professor Elaine Mawhinney-Webb at extension 214 for further information and course sequencing.

Course Concentration in JOURNALISM/BROADCASTING

Career training for students who would like to specialize in communications for newspapers or magazines, radio and television, public relations or freelance writing.

FIRST SEMESTER		CREDIT	SECOND SEMESTER		CREDIT
EN4401	English Composition I	3	EN4402	English Composition II	3
EN0101	Journalism I	3	EN0102	Journalism II	3
EN3333	Broadcast, Reporting & Announcing	3	EN2455	Art of the Movies*	3
	History/Government/Political Science Elective	3	PS1101	Introduction to Psychology	3
	Fine Arts Elective*	3		Political Science Elective	3
					15
		15			
THIRD SEMESTER		CREDIT	FOURTH SEMESTER		CREDIT
EN3334	Television Production I	3		Fine Arts Elective*	3
	Fine Arts Elective*	3	EN3335	Television Production II	3
SO3321	Introduction to Sociology OR		EN0103	Journalism Practicum	3
SO3324	Cultural Anthropology	3		Natural Science Elective*	4
	Natural Science Elective*	4		Math Elective	3
	Math Elective	3			16
		16			

***Art of the Movies** may count as one literature elective. A total of six credits in literature and eight credits in science are required. Introductory and Intermediate Photography are recommended for Fine Arts Elective.

Contact Professor Elizabeth Arnold at extension 212 for further information.

Course Concentration in MUSIC

This concentration offers guidance in course selection to students interested in preparing for careers in music, either those seeking professional work or those seeking transfer to four-year colleges. Concentration students are prepared to transfer to college curriculums and/or pursue professional work in the jazz, pop and classical areas of music. Students enrolled in the Music Concentration should plan on taking at least fifteen (15) credits but no more than twenty-four (24) credits in music courses. They should select at least one course from Category 1, two courses from Category II and one course from Category III.

CATEGORY I: LISTENING & MUSIC APPRECIATION

MU7091 Introduction to Music
MU7092 History of Jazz
MU7093 Twentieth Century Music

CATEGORY II: THEORIES & SKILLS

MU7090 Music Reading, Notation & Ear Training
MU7094 Jazz and Rock Theory
MU7100 Harmony

CATEGORY III: PERFORMANCE & APPLIED SKILLS

MU7097 Performance Ensemble I
MU7098 Performance Ensemble II
MU7101 Chorus I (2 credits)
MU7102 Chorus II (2 credits)

SPECIAL TOPICS

Special topics in Music, one to four credits; e.g. composition, research, performance, conducting and others.

Recommended Course Sequence:

FIRST SEMESTER		CREDIT	SECOND SEMESTER		CREDIT
	Music: Category I or II	3		Music: Category I	3
EN4401	English Composition I	3		Music: Category II or III	2/3
SO3321	Introduction to Sociology OR		EN4402	English Composition II	3
PS1101	Introduction to Psychology	3	HI9902	History of Western	
HI9901	Western Civilization I OR			Civilization OR	
HI9913	U.S. History I	3	HI9914	U.S. History II	3
	Elective	3		Psychology Elective	3
		<hr/> 15			<hr/> 14/15
THIRD SEMESTER		CREDIT	FOURTH SEMESTER		CREDIT
	Music: Category I or III	2/3		Music: any Category	2/3
EN8861	Western Literature I OR		EN8862	Western Literature II OR	
EN8851	American Literature I OR		EN8852	American Literature II	3
EN8891	Introduction to Poetry	3		Science Elective	3/4
CD9575	History of Science &			Math Elective	3
	Technology	3		Elective	3
LA5520	Liberal Arts Math I OR				<hr/> 14/16
	any other Math course	3			
	Elective	3			
		<hr/> 14/15			

NOTE: Students taking Chorus I (2 credits) should also take Chorus II in a following semester so they will not be 1 credit short of the 60 needed to graduate. Courses other than Chorus II may be substituted.

Students may see Professor Michael Finegold (extension 210) relative to cross-registration at other institutions for music lessons, additional course offerings, or further information.

Course Concentration in SCIENCE

These course sequences are designed as a suggested curriculum for students who decide early in their time at Northern Essex that they would like to earn a bachelor's degree in science. Although these sequences have taken into account prerequisites in science departments at New England universities, they are only suggested course sequences. With the advice of a faculty advisor, and even with a decision in the student's second year to become a science major, other course sequences (with some concentration in the sciences) may serve the same purposes for the Liberal Arts transfer student.

BIOLOGY/PRE-VETERINARY/PRE-MEDICAL

FIRST SEMESTER		CREDIT	SECOND SEMESTER		CREDIT
EN4401	English Composition I	3	EN4402	English Composition II	3
MA5621	Algebra & Trigonometry	4	MA5691	Calculus I	5
BI5515	Principles of Biology	4	BI5511	Intro. Biology: Botany OR	
PI5503	Introductory Physics I	4	BI5514	Intro. Biology: Zoology	4
	Behavioral Science Elective	3	PI5504	Introductory Physics II	4
				History Elective	3
		18			19
THIRD SEMESTER		CREDIT	FOURTH SEMESTER		CREDIT
CH5501	General Chemistry I	4	CH5502	General Chemistry II	4
MA5692	Calculus II	4		Biology Elective* OR	
	Literature Elective	3	CH5507	Organic Chemistry	4
	Language Elective	3		Literature Elective	3
	Behavioral Science Elective	3		Language Elective	3
		17		History Elective	3
					17

***Biology Electives:** BI5553 Microbiology, BI5517 Aquatic Biology, BI5511 Introductory Biology: Botany, BI5514 Introductory Biology: Zoology.

For more information on a career concentration in Biology contact Professor Wallace Blanchard at Extension 275.

CHEMISTRY/CHEMICAL ENGINEERING

FIRST SEMESTER		CREDIT	SECOND SEMESTER		CREDIT
EN4401	English Composition I	3	EN4402	English Composition II	3
MA5621	Algebra & Trigonometry	4	MA5691	Calculus I	5
PI5503	Introductory Physics I	4	PI5504	Introductory Physics II	4
CH5503	Introductory Chemistry I	4	CH5504	Introductory Chemistry II	4
	Behavioral Science Elective	3		History Elective	3
		18			19
THIRD SEMESTER		CREDIT	FOURTH SEMESTER		CREDIT
CH5501	General Chemistry I	4	CH5502	General Chemistry II	4
MA5692	Calculus II	4		Science Elective	4
	Literature Elective	3		Literature Elective	3
	Behavioral Science Elective	3		History Elective	3
	Language Elective (German)	3		Language Elective (German)	3
		17			17

For more information on a career concentration in Chemistry, contact Professor Mary Wadman at extension 279.

EARTH SCIENCE

FIRST SEMESTER		CREDIT	SECOND SEMESTER		CREDIT
EN4401	English Composition I	3	EN4402	English Composition II	3
MA5621	Algebra & Trigonometry	4	MA5691	Calculus I	5
PI5503	Introductory Physics I	4	PI5504	Introductory Physics II	4
CH5503	Introductory Chemistry I	4	CH5504	Introductory Chemistry II	4
	Behavioral Science Elective	3		History Elective	3
		18			19
THIRD SEMESTER		CREDIT	FOURTH SEMESTER		CREDIT
ES5502	Physical Geology	4	ES5501	Meteorology	4
MA5692	Calculus II	4	ES5504	Mineralogy	4
	Behavioral Science Elective	3		Literature Elective	3
	Literature Elective	3		History Elective	3
	Elective: Language/Philosophy/Religion/Fine Arts	3		Elective: Language/Philosophy/Religion/Fine Arts	3
		17			17

For more information on a career concentration in Earth Science, contact Professor Edward Spinney at extension 276.

ENVIRONMENTAL SCIENCE

Forest Resources, Environmental Conservation, Resource Economics
Wildlife Management, Plant and Soil Science

FIRST SEMESTER		CREDIT	SECOND SEMESTER		CREDIT
EN4401	English Composition I	3	EN4402	English Composition II	3
MA5621	Algebra & Trigonometry	4	BI5511	Intro. Biology: Botany OR	4
BI5515	Principles of Biology	4	BI5514	Intro. Biology: Zoology	4
CH5503	Introductory Chemistry I	4	BI5516	Aquatic Biology	4
	Behavioral Science Elective	3		History Elective	3
		18		Behavioral Science Elective	3
THIRD SEMESTER		CREDIT	FOURTH SEMESTER		CREDIT
EV5625	Sanitary Chemistry I	4	EV5626	Sanitary Chemistry II	4
MA5691	Calculus I	5	PI5504	Introductory Physics II	4
PI5503	Introductory Physics I	4		History Elective	3
	Literature Elective	3		Literature Elective	3
	Elective: Language/Philosophy/Religion/Fine Arts	3		Elective: Language/Philosophy/Religion/Fine Arts	3
		19			17

For more information on a career concentration in Environmental Science contact Professor Allan Pollock at extension 278.

PHYSICS

FIRST SEMESTER		CREDIT	SECOND SEMESTER		CREDIT
EN4401	English Composition I	3	EN4402	English Composition II	3
MA5621	Algebra & Trigonometry	4	MA5691	Calculus I	5
PI5503	Introductory Physics I	4	PI5504	Introductory Physics II	4
	Free Elective	3		Free Elective	3
	Behavioral Science Elective	3		History Elective	3
		17			18
THIRD SEMESTER		CREDIT	FOURTH SEMESTER		CREDIT
CH5501	General Chemistry I	4	CH5502	General Chemistry II	4
MA5692	Calculus II	4	PI5502	General Physics II	4
PI5501	General Physics I	4		Literature Elective	3
	Literature Elective	3		History Elective	3
	Language Elective	3		Language Elective	3
		18			18

For more information on a career concentration in Physics contact Professor John Mason at extension 279.

Course Concentration in SOCIAL WORK

An introduction to the purpose, techniques and problems of social work. A guide for Liberal Arts students who wish to begin preparation for a position in public and private social work agencies and/or intend to transfer into four-year programs in social work. Suggested schedule of sixty-one (61) credit hours of work required for graduation.

FIRST SEMESTER		CREDIT	SECOND SEMESTER		CREDIT
EN4401	English Composition I	3	EN4402	English Composition II	3
PS1101	Introduction to Psychology	3	SO3335	Intro. to Social Services	3
MA5520	Liberal Arts Math I	3	MA5525	Liberal Arts Math II	3
SO3321	Introduction to Sociology	3		Natural Science Elective	4
	Philosophy, Fine Arts OR			Philosophy, Fine Arts OR	
	Foreign Language	3		Foreign Language	3
		15			16
THIRD SEMESTER		CREDIT	FOURTH SEMESTER		CREDIT
GV3313	Federal Government	3	GV3314	State & Local Government	3
SO3333	Contemporary Social Problems	3	PS1354	Human Relations	3
PS1203	Human Growth/Development	3	SO3331	Marriage & the Family	3
	Natural Science Elective	4		Literature Elective	3
	Literature Elective	3	PS1351	Social Psychology	3
		16			15

For more information on this concentration contact Professor Faith Flythe at extension 162.

Course Concentration in THEATRE

Preparation for transfer or career for students interested in business, technical or performance aspects of theatre. In addition to course work, a Drama Society sponsored play is presented each semester, offering excellent opportunity for practical experience.

RECOMMENDED COURSE SEQUENCE

FIRST SEMESTER		CREDIT	SECOND SEMESTER		CREDIT
EN4401	English Composition I	3	EN4402	English Composition II	
PS1101	Introduction to Psychology			OR	
	OR			Literature or Film Option	3
SO3321	Introduction to Sociology		PS1154	Psychology of Personality	
	OR			OR	
PS1351	Social Psychology	3	MH2147	Group Dynamics	
HI9901	History of Western Civilization I			OR	
	OR		PS1354	Human Relations	3
HI9913	U.S. History I		HI9902	History of Western Civilization II	
	OR			OR	
HI9915	American Civilization	3	HI9914	U.S. History II	
TH7765	Introduction to Theatre Elective	3		OR	
		3	CD9575	History of Science & Technology	3
		15		Theatre Course Elective	3
					3
					15
THIRD SEMESTER		CREDIT	FOURTH SEMESTER		CREDIT
EN8861	Western Literature I		EN8862	Western Literature II	
	OR			OR	
EN8864	Shakespeare		EN8891	Introduction to Poetry	
	OR			OR	
EN8801	Bible as Literature	3	EN2455	Art of the Movies	3
BI5519	Anatomy & Physiology I		BI5520	Anatomy & Physiology II	
	OR			OR	
	Science Elective	3/4		Science Elective	3/4
	Math Elective	3		Math Elective	3
	Theatre Course Elective	3		Theatre Course Elective	3
		3			3
		15/16			15/16

Theatre courses are offered on an alternating basis over a period of time. The courses are:

TH7765 Introduction to Theatre
 TH7767 Children's Theatre
 TH7769 Acting
 TH7775 Fundamentals of Play Production: Directing
 TH7779 Reader's Theatre
 TH7785 Mime
 TH7789 Playwriting
 TH7795 History of Theatre
 TH7799 Rehearsal & Performance

For further information contact Professor Eugene Boles at extension 229.

Course Concentration in TOWN MANAGEMENT

An introduction to the function, politics and problems of managing local town governments. A guide for students who wish to begin preparation for a position on local government and/or who intend to transfer into four-year programs in Public Administration, Government or Political Science. Suggested course schedule of sixty-four (64) credit hours of work.

FIRST SEMESTER		CREDIT	SECOND SEMESTER		CREDIT
EN4401	English Composition I	3	EN4402	English Composition II	3
HI9913	U.S. History I	3	HI9914	U.S. History II	3
ES5502	Physical Geology	4	EV5627	Environmental Biology	4
MA5520	Liberal Arts Math I	3	MA5506	Statistics	3
	Philosophy, Fine Arts OR			Philosophy, Fine Arts OR	
	Foreign Language*	3		Foreign Language*	3
		16			16
THIRD SEMESTER		CREDIT	FOURTH SEMESTER		CREDIT
GV3313	Federal Government	3	GV3314	State & Local Government	3
EC3322	Micro-Economics	3	EC3323	Macro-Economics	3
AC6601	Introductory Accounting I	4	CT6633	Intro. Data Processing/Basic	4
	Literature Elective	3		Literature Elective	3
SO3359	Work and Society	3		Behavioral Science Elective**	3
		16			16

*Students are strongly urged to take Conversational Spanish I and II to fill this requirement.

**Students are urged to select one of the following courses to fill this requirement: Criminology, Juvenile Delinquency, Contemporary Social Problems, Human Relations, Introduction to Psychology.

For further information and course sequencing contact Professor Mary Harada at extension 233.

Course Concentration in WOMEN'S STUDIES

The following six courses constitute the Women's Studies Concentration:

FALL OFFERINGS:

1. HI8230 Women's History
2. EN8883 Women in Literature & Life
3. SO3359 Women and Society

SPRING OFFERINGS:

1. HI9917 The Family in History
2. EN8844 20th Century Women in Film
3. EN8886 Women's Lives: Recorded and Imagined

Students interested in Women's Studies may fulfill the requirements for the Concentration in Women's Studies and, at the same time, fulfill basic (core) requirements for the Associate Degree in Liberal Arts by selecting a Women's Studies course corresponding to a specific core requirement:

L.A. REQUIREMENT in HISTORY/GOVERNMENT (6 credits) may be fulfilled by the following Women's Studies courses: Women's History (3 credits) and Family in History (3 credits).

L.A. REQUIREMENT in LITERATURE (6 credits) may be fulfilled by the following Women's Studies courses: Women in Literature & Life (3 credits), 20th Century Women in Film (3 credits), Women's Lives: Recorded and Imagined (3 credits).

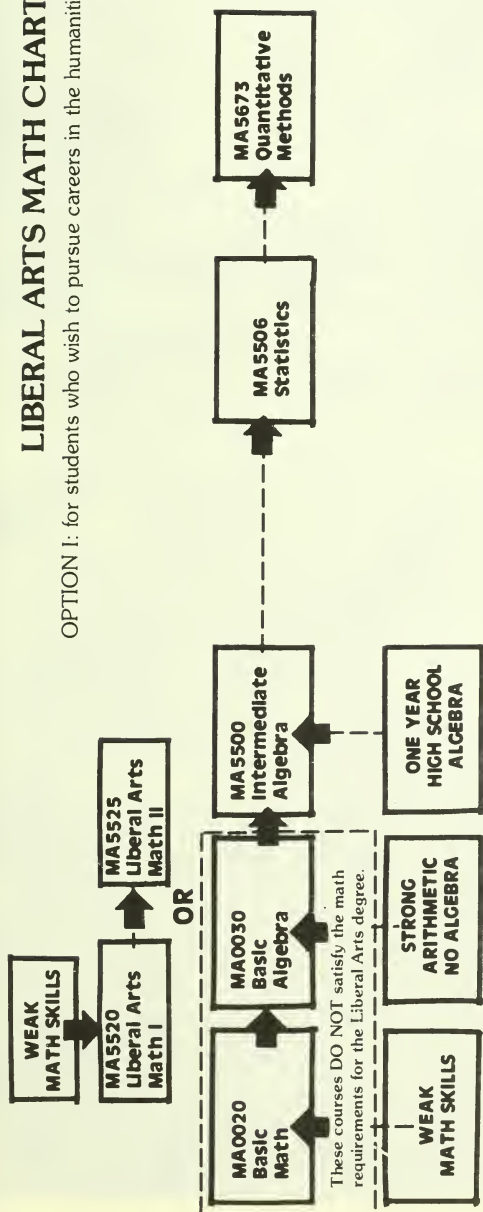
L.A. REQUIREMENT in BEHAVIORAL SCIENCE (6 credits) may be partially fulfilled by the following Women's Studies course: Women and Society (3 credits).

It is recommended that students in the Concentration in Women's Studies take English Composition I and Women's History in the first semester, and English Composition II and a second Women's Studies course in the second semester.

For more information on this concentration contact Professor Priscilla Bellairs at extension 222 or Professor Linda Kraus, extension 224.

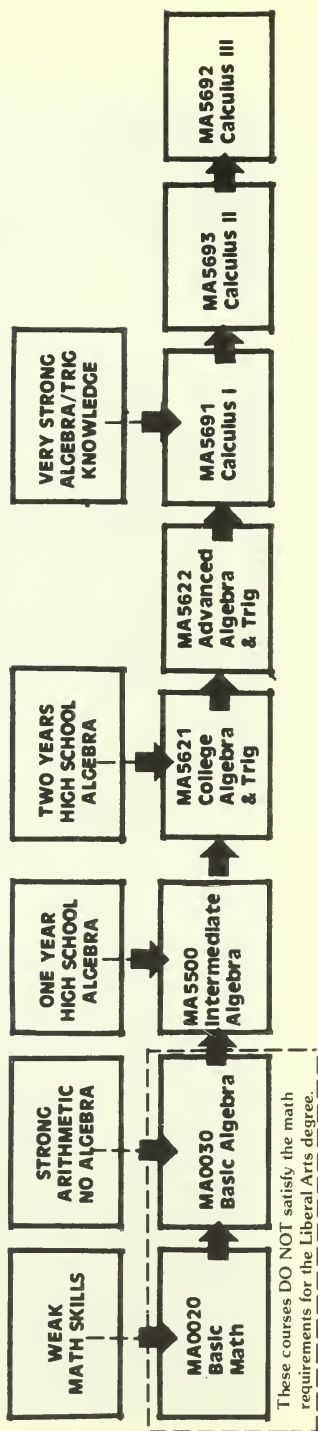
LIBERAL ARTS MATH CHART

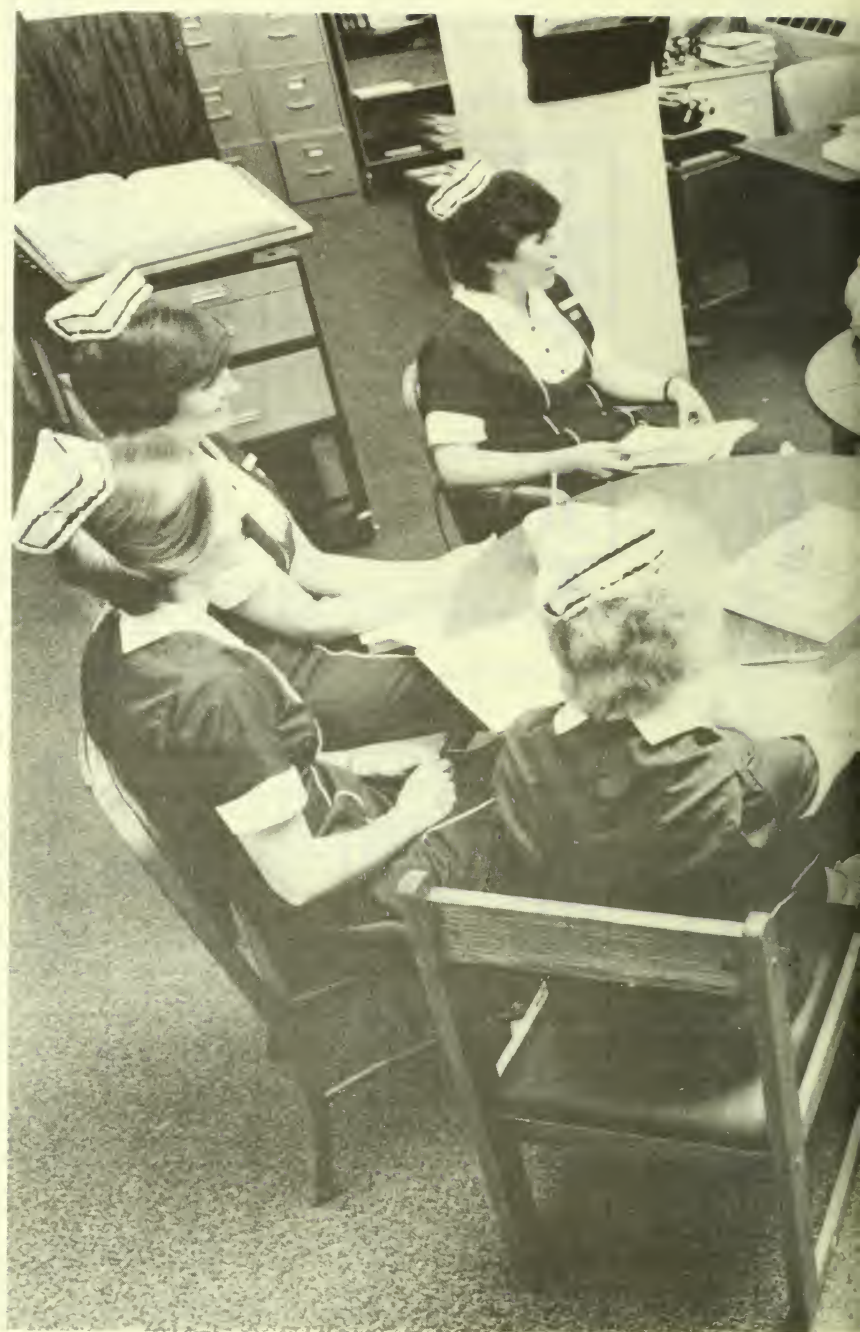
OPTION I: for students who wish to pursue careers in the humanities or social sciences



LIBERAL ARTS MATH CHART

OPTION II: for students who wish to pursue careers in science, math or medicine







Associate in Science Degree in MEDICAL RECORD TECHNOLOGY

The curriculum provides students an opportunity to take liberal arts courses and to apply knowledge obtained in technical courses through direct application in a clinical setting located off campus. Students who wish to continue their education in a four-year institution should choose electives which will fulfill the transfer requirements of the institution they choose. Job opportunities in hospitals, extended care facilities, psychiatric facilities, nursing homes, out-patient clinics, community health centers, state and local health departments, regional medical programs and rehabilitation centers are available.

The program is accredited by the American Medical Association's Committee on Allied Health Education and Accreditation in collaboration with the American Medical Record Association. Students who complete requirements for graduation are eligible to take the national accreditation examination of the American Medical Record Association. Sixty-nine (69) credit hours of work are required for graduation.

FIRST SEMESTER		CREDIT	SECOND SEMESTER		CREDIT
EN4401	English Composition I	3	EN4402	English Composition II	3
BI5519	Anatomy & Physiology I	4	BI5520	Anatomy & Physiology II	4
MR6605	Medical Terminology I	3	MR6606	Medical Terminology II	3
MR6601	Medical Record Science I	3	MR6602	Medical Record Science II	3
MR6651	Intro. to Health Services Typewriting*	3		Group A Elective**	3
		16			16
THIRD SEMESTER		CREDIT	FOURTH SEMESTER		CREDIT
MR6651	Medical Record Science III	3	MR6653	Medical Record Science IV	2
MR6667	Directed Practice I	4	MR6668	Directed Practice II	3
	Liberal Arts Elective	3		Group A Elective**	3
CT6633	Intro. Data Processing/Basic	4	MG6676	Personnel Management	3
MR6661	Transcription I	3	HS6652	Fundamentals of the Disease Process	3
		17	MR6602	Transcription II Elective	3
					20

***Typewriting MUST be taken** before the third semester unless students are able to type 45 wpm with 5 errors or less. Students who must take a typing course are exempt from the free elective listed in the fourth semester.

****GROUP A ELECTIVES:** Select one of the following two-course groups: PS1101 Introduction to Psychology and PS1351 Social Psychology OR SO3321 Introduction to Sociology and SO3333 Contemporary Social Problems.

NOTE: Students must provide their own transportation to and from practicum locations.

MALPRACTICE INSURANCE: All Medical Record students are required to carry malpractice insurance. The premium is to be paid prior to the beginning of classes. Students may not participate in the directed practice component of the program without malpractice insurance.

HEALTH: Medical Record students are required to complete a health evaluation prior to entering directed practice in the second year. The college's Student Health Services clinic will designate when the information is due at the college.

Olga Williams Ext. 185
Chairperson, Division of Business

Patricia Taglianetti Ext. 140
Coordinator, Medical Record
Technology Program

SEPTEMBER 1982

One-Year Certificate Program in MEDICAL TRANSCRIPTIONIST

The one-year certificate program in Medical Transcriptionist is designed for persons interested in working in a hospital medical record department, physicians office, clinic, laboratory, neighborhood health center, medical insurance office or other allied health institution. The program is of special interest to persons with some previous office training who wish to enhance job opportunities. It is an excellent choice for someone wishing to specialize in order to work in a medical or paramedical setting. Homemakers interested in returning to the job market would find the flexible hours available in these jobs attractive.

The purpose of the program is to provide students with the skills necessary to efficiently and accurately transcribe vital medical data included in health records to preserve medical information for use in patient care, as educational tools or for legal purposes. The program emphasizes the building of a strong medical vocabulary as well as good English skills, to enable students to accurately transcribe clinical resumes, operative reports, histories and other related medical reports. Thirty (30) credit hours of work are required for certification.

FIRST SEMESTER		CREDIT	SECOND SEMESTER		CREDIT
En4401	English Composition I	3	EN4402	English Composition II	3
	Typewriting II or III*	3		Typewriting III or IV	3
MR6605	Medical Terminology I	3	MR6662	Medical Transcription II	3
MR6661	Medical Transcription I	3	MR6606	Medical Terminology II	3
	Liberal Arts Elective	3		Elective**	3
		15			15

***Typing rate of 30 WPM** is required for admission; choose initial typing course according to level of ability.

****Choose one of the following courses:** Managerial Communications, Introduction to Word Processing, Word Processing Concepts, Medical Office Administration, Cooperative Experience in Medical Transcription.

Olga Williams Ext. 185
Chairperson, Division of Business

Patricia Taglianetti Ext. 140
Coordinator, Medical Record
Technology Program

SEPTEMBER 1982

Associate in Science Degree in MENTAL HEALTH TECHNOLOGY

The Mental Health Technology associate degree program instructs students in the theory and skills needed to recognize mental health problems in individuals, in groups and in the community; to understand the structure of mental health facilities, to understand current modalities of treatment in mental health, and to assist with physical rehabilitative therapies. Carefully supervised clinical experiences are part of the program and prepare students for middle-level professional positions in various types of mental health facilities. Sixty-three to sixty-four (63/64) credit hours of work are required for graduation.

PROGRAM PREREQUISITE

Letters of reference and a personal interview with
the Curriculum Coordinator are required after the initial
admission process has been completed

FIRST SEMESTER		CREDIT	SECOND SEMESTER		CREDIT
EN4401	English Composition I	3	EN4402	English Composition II	3
PS1101	Introduction to Psychology	3		Elective	3
MH2111	Intro. to Mental Health	3		Natural Science Elective	3/4
BI5510	Human Biology	3	MH2155	Modalities of Treatment	3
	Elective	3	MH2134	Mental Health Practicum I	4
MH2133	Observation & Recording of Mental Health Programs	1			16/17
		16			
THIRD SEMESTER		CREDIT	FOURTH SEMESTER		CREDIT
PS1751	Abnormal Psychology	3	MH2166	Seminar in Mental Health	3
MH2143	Mental Health Practicum II	4	MH2144	Mental Health Practicum III	4
PE2293	Innovative Movement Experiences	2	FA7012	Introduction to the Creative Experience	3
PE2002	First Aid & Safety	3		Sociology Elective	3
MH2147	Group Dynamics	3		Elective	3
		15			16

NOTE: Suggested electives for the Commonwealth Transfer Compact are three mathematics credits and six credits in humanities/fine arts.

All courses with an "MH" prefix are restricted to students enrolled in the Mental Health Technology or Community Residence Manager programs. Other students may take MH prefix courses, depending upon class size, with written permission of the Curriculum Coordinator.

Paul Bevilacqua Ext. 188	Mary DiGiovanni Ext. 193
Chairperson, Div. of Human Services & Health Professions	Coordinator, Mental Health

SEPTEMBER 1982

Certificate Program in **MENTAL HEALTH TECHNOLOGY** **COMMUNITY RESIDENCE MANAGER**

Students in the one-year Community Residence Manager certificate program will learn the theory and develop the skills needed to provide direct client services by assisting residents to master activity of daily living skills; group and individual counseling; money management techniques for residents; community referral skills; and to develop an understanding of the problems of the mentally retarded and mentally ill as they seek to enter into the mainstream of our society after years of institutionalization. Carefully supervised clinical experiences in residential services are an integral part of the program and prepare students for positions as a community residence manager. Graduates of this program have the opportunity to continue working toward an associate's degree in Mental Health Technology. Thirty-three (33) credit hours of work are required to complete the certificate.

FIRST SEMESTER		CREDIT	SECOND SEMESTER		CREDIT
EN4401	English Composition I	3	EN4402	English Composition II	3
MH2111	Intro. to Mental Health	3	PS1101	Introduction to Psychology	3
MH2001	Management of Community Residence: Health, Safety, Nutrition	3	MH2256	Behavior Management Techniques	3
MH2133	Observation & Recording of Mental Health Programs	1	MA5613	Mathematics of Finance	3
MH2147	Group Dynamics	3	MH2146	Mental Health Practicum in Residential Services II	4
MH2145	Mental Health Practicum in Residential Services I	4			16

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NOTE: All courses with an "MH" prefix are restricted to students enrolled in the Mental Health Technology or Community Residence Manager programs. Other students may take MH prefix courses, depending upon class size, with written permission of the Curriculum Coordinator.

Paul Bevilacqua Ext. 188
Chairperson, Div. of Human Services &
Health Professions

Mary DiGiovanni Ext. 193
Coordinator, Mental Health

SEPTEMBER 1982

Associate in Science Degree in RADIOLOGIC TECHNOLOGY

All of the technical studies in the Radiologic Technology associate degree program are closely interconnected with clinical experiences - you put your classroom-learned techniques to work at once under supervision. You'll be ready to take the national board examination sponsored by the American Registry of Radiological Technologists when you graduate. The successful completion of this exam qualifies you to be employed as a registered radiologic technologist. Sixty-nine (69) credit hours of work are required for graduation.

PROGRAM PREREQUISITE

Two science courses (one must be in Biology, Anatomy & Physiology,
Chemistry or Physics); two math courses (one must be Algebra)

SUMMER SESSION* - 8 weeks

RT6513 Introduction to Radiologic Technology - 2 CREDITS

FIRST SEMESTER	CREDIT	SECOND SEMESTER	CREDIT
EN4401 English Composition I	3	EN4402 English Composition II	3
BI5519 Anatomy & Physiology I	4	BI5520 Anatomy & Physiology II	4
RT6511 Radiologic Science I	3	RT6512 Radiologic Science II	3
RT6519 Radiologic Technology I	4	RT6529 Radiologic Technology II	4
RT6515 Clinical Practicum I	2	RT6525 Clinical Practicum II	2
		Mathematics Elective	3
	16		19

SUMMER SESSION - 10 Weeks

RT6523 Radiologic Internship - 2 CREDITS

THIRD SEMESTER	CREDIT	FOURTH SEMESTER	CREDIT
RT6537 Radiologic Technology III	3	RT6547 Radiologic Technology IV	3
RT6533 Advanced Radiographic Positioning	3	RT6543 Disease & Diagnosis	3
RT6539 Special Radiographic Procedures	3	RT6549 Radiobiology	3
RT6535 Clinical Practicum III	3	RT6545 Clinical Practicum IV	3
Liberal Arts Elective	3	Behavioral Science Elective	3
	15		15

***From July 1 to August 30** of the summer prior to the first semester of work in this program, each student must complete RT6513 Introduction to Radiologic Technology as a two-credit orientation course. This will also include a clinical internship at your affiliate hospital.

CLINICAL EXPERIENCE: This program requires successful completion of a clinical experience at one of the college's affiliate hospitals. This clinical experience is spread out over a 24-month period concurrent with the four-semester curriculum.

NOTE: Students admitted to this program must also meet the admission requirements of the affiliate hospital in which they will receive their clinical experience. Contact the Office of Admissions at Northern Essex for more information.

MALPRACTICE INSURANCE: All Radiologic Technology students are required to carry malpractice insurance. The premium is to be paid prior to the beginning of classes. Students may not participate in the Radiologic Technology program without malpractice insurance coverage.

HEALTH: Radiologic Technology students are required to complete a health evaluation prior to beginning the Radiologic Technology program. The college's Student Health Services clinic will designate when this information is due at the college.

Paul Bevilacqua Ext. 188 Christopher Armstrong Ext. 144
Chairperson, Div. of Human Services &
Health Professions Coordinator, Radiologic Technology

SEPTEMBER 1982

Associate in Science Degree in REGISTERED NURSING: DAY

Nursing at Northern Essex is a comprehensive, demanding and rewarding program. Seventy (70) credit hours of work (37 nursing credits and 33 general education credits) are required for graduation. Satisfactory clinical performance is required in all nursing courses with a laboratory component. Graduates are prepared to write the State Board Examination for Professional Nurse Licensure as a registered nurse. The program is fully approved by the Massachusetts Board of Registration in Nursing and accredited by the National League for Nursing.

PROGRAM PREREQUISITE

4 years of high school English; 2 years of science (one must be a laboratory course in Chemistry); 2 years of mathematics (at least one year of algebra)

FIRST SEMESTER (FALL)		CREDIT	SECOND SEMESTER (SPRING)		CREDIT
NS6601	Fundamentals of Nursing	8	NS6602	Maternal & Child Health Nursing	8
BI5519	Anatomy & Physiology I	4	BI5520	Anatomy & Physiology II	4
EN4401	English Composition I	3	EN4402	English Composition II	3
PS1101	Introduction to Psychology	3	SO3331	Marriage & the Family	3
		18			18

NOTE: BI5519, EN4401 and PS1101 must be taken prior to or concurrently with Fundamentals of Nursing.

NOTE: BI5520, EN4402 and SO3331 must be taken prior to or concurrently with Maternal and Child Health Nursing

THIRD SEMESTER (FALL)		CREDIT	FOURTH SEMESTER (SPRING)		CREDIT
NS6651	Mental & Physical Illness I	8	NS6652	Mental & Physical Illness II	10
SO3321	Introduction to Sociology	3	NS6682	Seminar on Nursing	3
BI5553	Microbiology	4		Social Science Elective**	3
	Humanities Elective*	3			16
		18			

NOTE: SO3321, BI5553 and the humanities elective must be taken prior to or concurrently with Mental & Physical Illness I.

NOTE: NS6682 and the social science elective must be taken prior to or concurrently with Mental & Physical Illness II.

***Humanities elective** to be chosen from courses offered by the departments of Creative Arts and/or English and/or Foreign Languages, Philosophy and Religion.

****Social science elective** to be chosen from courses offered by the departments of Behavioral Sciences and/or History and Government.

(continued)
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THE CURRICULUM:

SEQUENCE OF COURSES: The Nursing curriculum has been structured in a special sequence. Students are required to follow this sequence of courses throughout the entire four semesters of the Nursing program. Students are also required to complete successfully all courses in each semester before proceeding to the next semester.

GRADING: The final grade in a Nursing course is based on theory and performance in the clinical laboratory. A failure in either area constitutes failure for the course. Students must maintain a 2.0 in Nursing courses to proceed to the next semester.

NLN EXAMS: Standardized National League for Nursing examinations are required as an integral aspect of the curriculum for graduation.

TRAVEL: Students are responsible for their own transportation to and from clinical agencies. Clinical laboratory experience is scheduled Tuesday and Thursday each week. Selected clinical experiences in the Day Nursing Program may be offered during the evening hours. Students must be prepared for these alternately scheduled hours. Students may request experience in a specific clinical agency; however, final decision regarding the placement of students rests with the Nursing faculty. **NOTE: on occasion, conferences may be scheduled at the college during clinical hours, requiring students to return to the college from the clinical agency.**

MALPRACTICE INSURANCE: All Nursing students are required to carry malpractice insurance. The premium is to be paid prior to the beginning of classes. Students may not participate in the Nursing program without malpractice insurance coverage.

HEALTH: Nursing students are required to complete a health evaluation prior to beginning the Nursing program. The college's Student Health Services clinic will designate when this information is due at the college.

Paul Bevilacqua Ext. 188
Chairperson, Div. of Human Services &
Health Professions

Dolores Haritos Ext. 133
Chairperson, Dept. of Nursing

SEPTEMBER 1982

Associate in Science Degree in REGISTERED NURSING: EVENING

The Evening Nursing Program is offered through the Division of Continuing Education and Community Services. The program of studies and the educational background required is identical to that of the Day Program. Students may complete the program in a four-year time schedule. Students will consider the fundamentals of nursing during the first year. The second year is an in-depth study of maternal and child health care. Studies in the third and fourth years concentrate on medical, surgical and psychiatric nursing requiring two evenings per week of classroom and clinical study.

The Evening Nursing Program requires a strong commitment from students to complete a four year course of study. It is possible, however, for students to fulfill the liberal arts requirements outside the Division of Continuing Education and Community Services.

The Evening Nursing Program is accredited by the National League for Nursing. Seventy (70) credit hours of work are required for graduation.

PROGRAM PREREQUISITE

4 years of high school English; 2 years of science (one must be a laboratory course in Chemistry); 2 years of math (at least one year of Algebra). Each student is evaluated individually. Consideration is given to the adult applicant returning to the academic community after a lengthy absence.

FIRST YEAR/FALL SEMESTER		CREDIT	FIRST YEAR/SPRING SEMESTER		CREDIT
NS6601	Fundamentals of Nursing (Nursing I)*	8	NS6601	Fundamentals of Nursing*	4
BI5519	Anatomy & Physiology I	4	BI5520	Anatomy & Physiology II	3
PS1101	Introduction to Psychology	3	EN4401	English Composition I	7
		15			

NOTE: BI5519, BI5520, EN4401 and PS1101 must be taken prior to or concurrently with Fundamentals of Nursing.

SECOND YEAR/FALL SEMESTER		CREDIT	SECOND YEAR/SPRING SEMESTER		CREDIT
BI5553	Microbiology**	4	SO3331	Marriage & the Family**	3
NS6602	Maternal & Child Health Nursing (Nursing II)*	8	NS6602	Maternal & Child Health Nursing*	3
EN4402	English Composition II**	3		Humanities Elective***	6
		15			

NOTE: Fundamentals of Nursing must be taken prior to Maternal & Child Health Nursing; BI5553, EN4402, SO3331 and the humanities elective must be taken prior to or concurrently with Maternal & Child Health Nursing.

THIRD YEAR/FALL SEMESTER	CREDIT	THIRD YEAR/SPRING SEMESTER	CREDIT
NS6651 Mental & Physical Illness I (Nursing III)*	8	NS6651 Mental & Physical Illness I* Social Science Elective†	3
SO3321 Introduction to Sociology	3		
	<hr/> 11		<hr/> 3

NOTE: Maternal and Child Health Nursing must be taken prior to Mental & Physical Illness I.

FOURTH YEAR/FALL SEMESTER	CREDIT	FOURTH YEAR/SPRING SEMESTER	CREDIT
NS6652 Mental & Physical Illness II*	10	NS6652 Mental & Physical Illness II*	
NS6682 Contemporary Issues and Practices in Nursing	3		
	<hr/> 13		

NOTE: Mental and Physical Illness I must be taken prior to Mental & Physical Illness II and Contemporary Issues and Practices in Nursing (Contemporary Issues and Practices in Nursing is offered in the Fall semester only). Nursing courses are offered in the sequence stated above.

***Nursing I, II, III** are 8-credit courses. Nursing IV is 10 credits. These courses are one academic year in length.

****These courses may be taken** during the summer session as long as they follow the sequence stated above.

*****Humanities elective** to be chosen from courses offered by the departments of Creative Arts and/or English and/or Foreign Languages, Philosophy and Religion.

†**Social science elective** to be chosen from courses offered by the departments of Behavioral Sciences and/or History and Government.

CURRICULUM

GRADING: The final grade in a nursing course is based on theory and performance in the clinical laboratory. A failure in either area constitutes failure for the course. Students must maintain a 2.0 in Nursing courses to proceed to the next semester.

NLN EXAMS: Standardized National League for Nursing examinations are required as an integral aspect of the curriculum for graduation.

TRAVEL: Students are responsible for their own transportation to and from clinical agencies. Clinical laboratory experience is scheduled on two evenings each week. Students may request experience in a specific clinical agency; however, final decision regarding the placement of students rests with the Nursing faculty.

MALPRACTICE INSURANCE: All Nursing students are required to carry malpractice insurance. The premium is to be paid at registration in the Fall of each year. Students may not participate in the Nursing Program without malpractice insurance coverage.

HEALTH: Nursing students are required to complete a health evaluation prior to the beginning of Nursing I and Nursing III. A yearly mantoux is required at the beginning of each academic year. The college's Student Health Services clinic will designate when this information is due at the college.

NOTE: SEQUENCE OF COURSES - Any deviation from the planned schedule can be made only with written permission from the Evening Nursing Director. It is the responsibility of the student to be knowledgeable regarding when courses are offered and plan accordingly.

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Chairperson, Div. of Human Services &
Health Professions

Amy Anderson Ext. 134
Director, Nursing Program: Evening Section

SEPTEMBER 1982

Associate in Science Degree in RESPIRATORY THERAPY TECHNOLOGY

The Respiratory Therapy Technology associate degree program gives you an intensive theoretical preparation which you will learn to apply as you develop strong clinical skills in our affiliated hospitals. The respiratory therapist specializes in the application of knowledge and theory to practical, clinical problems of respiratory care. The respiratory therapist is qualified to assume primary clinical responsibility for all respiratory care modalities, and may be called upon to exercise independent clinical judgment in the clinical setting. You will also learn, and practice, the use and maintenance of respiratory therapy equipment. Graduates are prepared to sit for the examination given by the National Board for Respiratory Therapy to become registered respiratory therapists. Seventy-four (74) credit hours of work are required for graduation.

PROGRAM PREREQUISITE

Two science courses (one must be biology, chemistry
or physics) and two math courses (one must be algebra)

FIRST SEMESTER		CREDIT	SECOND SEMESTER		CREDIT
BI5519	Anatomy & Physiology I	4	EN4401	English Composition I	3
NS6500	Basic Nursing Care	2	BI5520	Anatomy & Physiology II	4
SC5515	Fundamentals of Science	3	RS6629	Respiratory Pharmacology	2
RS6611	Respiratory Therapy I	8	RS6621	Respiratory Therapy II	8
		<hr/> 17			<hr/> 17
SUMMER SESSION		CREDIT			
RS6631	Respiratory Therapy III	8			
		<hr/> 8			
THIRD SEMESTER		CREDIT	FOURTH SEMESTER		CREDIT
EN4402	English Composition II	3		Humanities Elective	3
BI5553	Microbiology	4		Social Science Elective	3
	Elective	3	RS6659	Respiratory Therapy Seminar	2
RS6641	Respiratory Therapy IV	7	RS6651	Respiratory Therapy V	7
		<hr/> 17			<hr/> 15

MALPRACTICE INSURANCE: All Respiratory Therapy students are required to carry malpractice insurance. The premium is to be paid prior to the beginning of classes. Students may not participate in the Respiratory Therapy program without malpractice insurance coverage.

HEALTH: Respiratory Therapy students are required to complete a health evaluation prior to beginning their Respiratory Therapy program. The college's Student Health Services clinic will designate when the information is due at the college.

Paul Bevilacqua Ext. 188
Chairperson, Div. of Human Services &
Health Professions

Christopher Rowse Ext. 137
Coordinator, Respiratory Therapy

SEPTEMBER 1982

One-Year Certificate Program in **RESPIRATORY THERAPY**

The one-year certificate program in Respiratory Therapy is a duplicate of the first year of the associate degree program; additional experience in direct patient care areas is provided during the summer session. The respiratory therapy technician specializes in the technical details of general floor respiratory therapeutics, and assumes clinical responsibility for specified respiratory care regimens involving the application of therapeutic techniques under the supervision of a therapist or physician. Graduates are prepared to sit for the examination given by the National Board for Respiratory Therapy to become certified respiratory therapy technicians. In order to progress in the program, a grade of C or better is required in each Respiratory Therapy course (didactic and clinical). Forty-two (42) credit hours of work are required for the certificate.

PROGRAM PREREQUISITE

Two science courses (one must be biology, chemistry or physics) and
two math courses (one must be algebra)

FIRST SEMESTER		CREDIT	SECOND SEMESTER		CREDIT
BI5519	Anatomy & Physiology I	4	EN4401	English Composition I	3
NS6500	Basic Nursing Care	2	BI5520	Anatomy & Physiology II	4
SC5515	Fundamentals of Science	3	RS6629	Respiratory Pharmacology	2
RS6611	Respiratory Therapy I	8	RS6621	Respiratory Therapy II	8
		17			17
SUMMER SESSION		CREDIT			
RS6631	Respiratory Therapy III	8			
		8			

MALPRACTICE INSURANCE: All Respiratory Therapy students are required to carry malpractice insurance. The premium is to be paid prior to the beginning of classes. Students may not participate in the Respiratory Therapy program without malpractice insurance.

HEALTH: Respiratory Therapy students are required to complete a health evaluation prior to beginning the Respiratory Therapy program. The college's Student Health Services clinic will designate when the information is due at the college.

Paul Bevilacqua Ext. 188
Chairperson, Div. of Human Services &
Health Professions

Christopher Rowse Ext. 137
Coordinator, Respiratory Therapy

SEPTEMBER 1982

Associate in Science Degree in WORD PROCESSING TECHNOLOGY & MANAGEMENT

The Word Processing Technology and Management program provides the opportunity for students to approach this rapidly expanding job market at the entry level, as well as the essential managerial background to advance to managerial and supervisory positions as word processing managers. There is intensive concentration in the technical area of word processing and office management. Training is provided for students interested in acquiring a productive and financially rewarding career in the word processing field within industries in the immediate area. (61) credit hours of work are required for graduation.

FIRST SEMESTER		CREDIT	SECOND SEMESTER		CREDIT
EN4401	English Composition I	3	EN4402	English Composition II	3
TW6631	Typewriting I, II or III**	3	TW6631	Typewriting II, III or IV**	3
SL6661	Office Administration I	3	SL6671	Word Processing Concepts	3
AC6691	Elements of Accounting I	3	SL6665	Essentials of Office	
	Liberal Arts Elective	3		Management	3
				Behavioral Science Elective	3
		<hr/> 15			<hr/> 15
THIRD SEMESTER		CREDIT	FOURTH SEMESTER		CREDIT
TW6641	Technical Typewriting**		SL6672	Advanced Word Pro-	
OR	OR			cessing Projects	4
TW6631	Typewriting III**	3	SK6653	Machine Transcription	3
SL6669	Managerial Communications	3		Humanities Elective	3
SL6666	Intro. to Word Processing	3		Elective*	3
	Science Elective	3		Elective*	3
	Liberal Arts Elective	3			
		<hr/> 15			<hr/> 16

***Choose two of the following electives:** Shorthand (Gregg or ABC), Cooperative Education in Word Processing, Elements of Accounting II, Typewriting IV, Data Processing, Machine Shorthand I.

****Students will elect** a sequence of typewriting courses (TW6621, TW6622, TW6631) after consultation with a departmental advisor.

Olga Williams Ext. 185
Chairperson, Division of Business

Jean Poth Ext. 268
Chairperson, Dept. of Office and Business Education

SEPTEMBER 1982



DESCRIPTIONS OF COURSES

COURSE SCHEDULING

This catalog makes no attempt to indicate when specific courses are scheduled. Many courses are offered every year, some every other year. Schedules are issued well before the beginning of each semester.

SPECIAL TOPICS COURSES

DIRECTED STUDIES

In addition to the courses listed, courses of a special nature may be made available for students. For further information concerning such courses, see the section in this catalog on Academic Standards.

MATH CHARTS

Charts are included in the program section of the catalog and in the N.E.C.C. Handbook for Business and Liberal Arts students and students in Computer Technology: Business Programming Option to assist them in selecting math courses appropriate to their background in math and their current and future educational goals. For further assistance, see your advisor.

COURSE SYMBOLS

All courses are identified by a six-symbol description preceding the course title. The first two digits relate to the discipline and are letter symbols; the last four digits are numbers. The following listing of symbols is provided as a guide to help each student locate a specific course description.

AC.....Accounting
BI.....Biology
BK.....Banking
CC.....Early Childhood Education
CE.....Civil Technology
CH.....Chemistry
CJ.....Criminal Justice
CI/CO.....Cooperative Education
CT.....Computer Technology
EC.....Economics
ED.....Education
EN.....English
ES.....Earth Science
ET.....Electronics
EV.....Environmental Technology
FA....Fine Arts (Art/Dance/Photography)
FI.....Finance
FR.....French
FS.....Food Service Management
GE.....Geography
GM.....German
GR.....Gerontology
GV.....Government
HI.....History
HS.....Health Services
HU.....Humanities

IN.....Interpreter Training
LW.....Law
MA.....Mathematics
MG.....Management
MH.....Mental Health
MK.....Marketing
MR.....Medical Record Technology
MU.....Music
NS.....Nursing
PE.....Physical/Outdoor Education
and Leisure Studies
PH.....Philosophy
PI.....Physics
PS.....Psychology
RE.....Religion
RS.....Respiratory Therapy
RT.....Radiologic Technology
SC.....Science
SH.....Shorthand
SK.....Office Techniques
SL.....Office Administration
SO.....Sociology
SP.....Spanish
TH.....Theatre
TW.....Typewriting

ACCOUNTING

AC6600 Workshop in Basic Business and Bookkeeping

A one-semester course; three credit hours. This course includes the study of business papers, bank checks, reconciliations, payroll accounts, the use of journals, general subsidiary ledger and the preparation of financial statements. As part of the course, the student will be required to complete a practice set. It also provides practical experience in applying the fundamentals of accounting. Three class hours per week.

AC6601 Introductory Accounting I

A one-semester course; four credit hours. The basic concepts of accounting and uses of accounting data. Topics include the theory of debit and credit, use of journals and ledgers, analysis and recording of financial transactions, the accounting for both a service type business and a merchandising business, internal control, special journals and the control of cash transactions. Four class hours per week.

AC6602 Introductory Accounting II

A one-semester course; four credit hours. A continuation of AC6601. Emphasis is on accounting for receivables and payables, inventories, plant and equipment, payroll accounting, partnerships, corporations and long-term liabilities. Four class hours per week.

Prerequisite:
AC6601

AC6651 Intermediate Accounting I

A one-semester course; four credit hours. A detailed study of accounting theory and practice as it relates to financial accounting. Includes income statement and balance sheet presentation, cash, temporary investments, short-term receivables, inventories and current liabilities. Four class hours per week.

Prerequisite:
AC66021

AC6652 Intermediate Accounting II

A one-semester course; four credit hours. A continuation of AC6651. Includes tangible assets, intangible assets, long-term liabilities, elements of corporate capital, investments, and the statement of changes in financial position. Four class hours per week.

Prerequisite:
AC6602

AC6671 Cost Accounting

A one-semester course; three credit hours. An intensive study of cost methods; costing for materials, labor and factory overhead; job-order process, direct costing and the use of standards. Three class hours per week.

Prerequisite:
AC6602

AC6682 Tax Accounting

A one-semester course; three credit hours. An introduction to the principles of federal taxation with emphasis on history of income taxation, gross income, deductions, exemptions, accounting records, preparation and filing of tax returns. Three class hours per week.

Prerequisite:
AC6602

AC6691 Elements of Accounting I

A one-semester course; three credit hours. Study of current accounting terminology, introduction to the basic principles and practices of accounting. Topics include double-entry system and the accounting equation, journals, ledgers, trial balances, work sheets, financial statements, cash and banking procedures and payroll records. Three class hours per week.

AC6692 Elements of Accounting II

A one-semester course; three credit hours. Study of subsidiary ledgers, the voucher system, inventories, receivables and fixed

assets. Introduction to accounting for partnerships and corporations. Opportunity for extensive practice through use of long problems and practice sets. Three class hours per week.

AC6693 Elements of Accounting III

A one-semester course; three credit hours. Intensive study of the voucher system, corporate organization and accounting, manufacturing accounts, budgeting and internal reporting, interim statements, and analysis of financial statements. Three class hours per week.

Prerequisite:

AC6692 or equivalent

AC6694 Simulation in Accounting

A one-semester course; three credit hours. Students apply advanced accounting theory to the solution of comprehensive, detailed accounting problems representative of those encountered in contemporary business situations. Professional papers and relevant business cases are emphasized. Three class hours per week.

Prerequisite:

AC6693 or equivalent

AEROSPACE STUDIES

AS1010 The Air Force Today

A one-semester course; one credit hour. This course deals with the Air Force in the contemporary world through a study of the total force structure, strategic offensive and defensive forces, general purpose forces, and aerospace support forces. One class hour per week. **Permission of instructor required.**

AS1020 The Air Force Today

A one-semester course; one credit hour. Continuation of AS1010. One class hour per week.

AS2010 The Development of Air Power

A one-semester course; one credit hour. This course is a study of air power from balloons and dirigibles through the jet age; a historical

review of air power employment in military and non-military operations in support of national objectives; and a look at the evolution of air power concepts and doctrine. One class hour per week. **Permission of instructor required.**

AS2020 The Development of Air Power

A one-semester course; one credit hour. Continuation of AS2010. One class hour per week.

BIOLOGY

BI5510 Human Biology

A one-semester course; three credit hours. A basic study of the structure and function of the human body. Emphasis will be placed on the interrelationships between the systems. Special consideration will be given to the nervous system, the circulatory system, and reproduction, growth and development. Three class hours per week.

BI5511 Introductory Biology: Botany

A one-semester course; four credit hours. An introductory biology course based on the study of plants. The lectures include a gross and microscopic survey of plant anatomy from algae to the higher vascular plants noting the evolutionary trends, their economic relationship with man, and the fundamentals of physiology and morphology of the higher vascular plants. Three class hours and two laboratory hours per week.

BI5514 Introductory Biology: Zoology

A one-semester course; four credit hours. An introductory biology course based on the study of animals. The lectures include a survey of major invertebrate and vertebrate animals with emphasis on their structure, adaptations, evolution and natural history. Laboratory work emphasizes identification and structural form of local fauna. Three class hours and two laboratory hours per week.

BI5515 Principles of Biology

A one-semester course; four credit hours. A course dealing with the biological principles

common to both plant and animal biology. These principles include the nature of chemical systems, cellular structure and functioning, genetics, ecology, and evolution. Three class hours and two laboratory hours per week.

BI5516 Aquatic Biology

A one-semester course; four credit hours. An introductory course covering aquatic environments, the origins of lakes, ponds, rivers and streams, methods for sampling aquatic environments for micro flora and fauna, plankton and larger organisms. Use of microorganisms as indicators of pollution, plankton and larger organisms for bio-assay and for food production will all be covered. An outdoor, field-work oriented course. Three class hours and one three-hour laboratory per week.

BI5519 Anatomy & Physiology I

A one-semester course; four credit hours. Some basic principles of biology are introduced. These are followed by an introduction to the study of the structure and functioning of the human body. Systems covered are: integumentary, skeletal, muscular and nervous. Emphasis will be placed on the interrelationships between the systems. Related topics such as diseases of the systems will be integrated where applicable. Laboratory work will include experiments, dissection, microscope work, and the study of charts and models. Three class hours and two laboratory hours per week.

BI5520 Anatomy & Physiology II

A one-semester course; four credit hours. A continuation of BI5519. Systems covered are: circulatory, endocrine, reproductive, urinary, digestive and respiratory. Three class hours and two laboratory hours per week.

BI5551 Genetics

A one-semester course; four credit hours. The lectures present the fundamental Mendelian principles, and the exploration of more recent discoveries, including DNA molecule and the operon theory of microorganisms, higher plants and animals. New concepts of gene mutation and gene action are considered. Practical exercises are

used to illustrate the principles. Three class hours and three laboratory hours per week.

Prerequisite:

One year of introductory biology at the college level or permission of the instructor

BI5553 Microbiology

A one-semester course; four credit hours. The biology of bacteria and microorganisms is studied. Laboratory work emphasizes the sterile technique. Immunology is discussed. Three class hours and three laboratory hours per week.

Prerequisite:

One year of introductory biology at the college level or permission of the instructor

BANKING

BK6601 Principles of Bank Operations

A one-semester course; three credit hours. Survey of banking's relationship to the total economy and the functional relationships of departments within the bank. Develops the framework for more specialized study of the banking institution. Three class hours per week.

BK6602 Savings & Time Deposit Banking

A one-semester course; three credit hours. A fundamental study of the historical development and economic function of savings institutions and the savings process. Three class hours per week.

BK6611 Money and Banking

A one-semester course; three credit hours. The practical aspects of money and banking; emphasis is placed on such problems as economic stabilization, types of spending, the role of gold, limitations of central bank control, government fiscal policy, balance of payments and foreign exchange showing their repercussions on the banking industry in affecting yield curves and the structuring of portfolios. Three class hours per week.

BK6612 Bank Management

A one-semester course; three credit hours. A

study of trends in the philosophy and practice of management. Some use of case study. Three class hours per week.

BK6621 Credit Administration

A one-semester course; three credit hours. This course concerns itself with a statement and a discussion of factors influencing and determining loan policy, methods of credit investigation and analysis; credit techniques; specific credit problems, and regular as well as unusual types of loans. Three class hours per week.

BK6622 Home Mortgage Lending

A one-semester course; three credit hours. Examination of mortgage credit in the United States and the structure of the mortgage market. An analysis of the management considerations in mortgage lending and portfolio management. Three class hours per week.

BK6623 Installment Credit

A one-semester course; three credit hours. Study of the installment credit function, credit information, lending, collections and other procedures as well as inventory financing, special loan programs, business development and advertising, and the public relations aspect of installment lending. Three class hours per week.

BK6624 Trust Department Services

A one-semester course; three credit hours. Study of trust services, responsibilities of executors and administrators, analysis of the structure of trusts, alternative forms and the general and investment responsibilities of trustees. Three class hours per week.

BK6651 Analyzing Financial Statements

A one-semester course; three credit hours. Basic consideration in financial statement analysis, basic financial ratios, analysis of working capital, and other items. Three class hours per week.

BK6652 Bank Letters and Reports

A one-semester course; three credit hours. A review of the forms of letter and report writing as they apply to public relations and emphasize fundamental principles underlying modern correspondence. Three class hours per week.

BK6653 Bank Public Relations and Marketing

A one-semester course; three credit hours. A study of the public relations and marketing aspects of banking as they apply to relations with customers, the community and others. Three class hours per week.

BK6654 Fundamentals of Bank Data Processing

A one-semester course; three credit hours. A non-technical study of electronic data processing as applied to banks. A survey course. Three class hours per week.

BK6655 Negotiable Instruments

A one-semester course; three credit hours. An introduction to the Uniform Commercial Code and the legal framework of the U.S. commercial banking system. Commercial paper from inception through issuance. Checks: kinds, types and environmental characteristics. Specific treatment of MICR checks, data processing problems, and the evolving paperless electronic payments. Three class hours per week.

EARLY CHILDHOOD EDUCATION

CC2201 Introduction to Early Childhood Education

A one-semester course; three credit hours. This course provides the student with an understanding of the child's experience in the school as it relates to his/her total development. It raises particular problems associated with curriculum planning and helps to develop criteria for evaluating a program for young children. Three class hours per week.

**Prerequisite for Day School:
Enrollment in the Early Childhood Education program.**

CC2264 Early Childhood Education Seminar

A one-semester course; three credit hours. Students are given the opportunity to

summarize and analyze their understanding of the theories and practices in early childhood education and the role of the paraprofessional in this field. An informal lecture/discussion format allows for analysis of practicum experience as well as for community resource guest lecturers and independent research. Three class hours per week.

Prerequisite:

Enrollment in the Early Childhood Education program

CC2311 Observation and Recording of Child Behavior

A one-semester course; one credit hour. A preliminary study of child behavior in varied educational settings. Defined areas of child behavior will be observed and recorded. Three practicum hours per week, plus one hour for recording and preparation.

Prerequisite:

Enrollment in CC2201

CC2312 Early Childhood Education Practicum I

A one-semester course; three credit hours. Under the guidance and supervision of the cooperating teacher, skills and concepts of child growth, development and learning acquired in Introduction to Early Childhood Education and in Introduction to the Creative Experience will be applied by the student in selected practicum placements. One class hour and eight practicum hours per week.

Prerequisite:

CC2201, FA7012

CC2353 Early Childhood Education Practicum II

A one-semester course; four credit hours. The student will be actively involved in the varied activities which constitute the curriculum of early childhood education classrooms and educational programs. Under the supervision of a cooperating teacher, the student will become more familiar with the role and responsibilities of the paraprofessional in early childhood education settings. One class hour and twelve practicum hours per week.

Prerequisite:

CC2201, CC2312

CC2354 Early Childhood Education Practicum III

A one-semester course; four credit hours. Sixteen hours of experience in the early childhood classroom or educational program allows the student both greater involvement in the program and an increased familiarity with the role and responsibilities of the early childhood education paraprofessional. Sixteen practicum hours per week.

Prerequisite:

CC2312, CC2353

CC2366 Introduction to Family Day Care

A one-semester course; three credit hours. Directed to the needs of family day care providers, this course is designed as an introduction to the role of the family day care provider as he/she relates to the child, his/her parents and to the community. Subject matter will cover growth and development of children, nutrition and safety factors, interpersonal relationships and the positive ways of guiding the behavior of young children. Three class hours per week.

CIVIL TECHNOLOGY

CE6600 Introductory Surveying

A one-semester course; four credit hours. The course is designed to give a student an introduction to basic surveying techniques on a directed studies basis. Topics covered include operation of surveying instruments, steel taping, taking field notes, level note reductions and tape corrections. Three class hours and one three-hour laboratory period per week in conjunction with CE6601 Surveying I. **To be taken only on advice of instructor.**

CE6601 Surveying I

A one-semester course; four credit hours. The course is designed to give the student proficiency in the use of surveying instruments and in performing necessary calculations. Horizontal, vertical and angular measurements are made and length, elevations, bearings and traverse computations with appropriate adjustments

and corrections are made. Neat note taking and neat calculations are stressed. Three class hours and three laboratory hours per week.

CE6602 Surveying II

A one-semester course; four credit hours. The course is designed to give the student more proficiency in surveying measurements and calculations involved in horizontal and vertical curves, areas, stadia measurements, topographic surveys, photogrammetric surveys and land surveys. Use of modern instruments and calculation techniques are stressed. Three class hours and three laboratory hours per week.

Prerequisite:

MA5621 and CE6601 or equivalent experience

CE6612 Drawing for Civil Technology

A one-semester course; one credit hour. A course designed to give the student a good knowledge of some of the specialized drafting techniques required in the practice of civil technology. Topics covered are plan drawing, cross section drawing, profile drawing, inking techniques, printing techniques, etc. Three laboratory hours per week.

Prerequisite:

CE6601

CE6651 Statics

A one-semester course; three credit hours. Course is designed to give students a knowledge of the action of forces on various mechanical and structural systems: systems include beams, trusses, frames and arches. Topics on friction, centroids of areas and moments of inertia are also discussed. Basic principles of free body diagrams, equations of equilibrium, method of joints and method of sections are presented. Three class hours per week.

Prerequisite:

MA5621

CE6653 Strength of Materials

A one-semester course; four credit hours. The course is designed to acquaint the student with the relationship between externally applied forces and the internally induced stresses in various types of structural

members and parts, such as bolts, rivets, shafts, pressure tanks, beams and columns. Also covered is the relationship between the externally applied forces and the resulting deformations. Particular attention is given to beam bending, column loadings, tension in shafts, centroids and moments of inertias and combined stresses in structural elements. Three class hours and three laboratory hours per week.

Prerequisite:

CE6651 or equivalent

CE6654 Structural Analysis & Design

A one-semester course; three credit hours. The course includes the fundamental principles involved in the design of steel and reinforced concrete structures. The student learns the basic analysis and design techniques for beams, columns, walls, footings, retaining walls, floor systems and flat slabs as specified by modern building codes. Fundamentals of timber design are also covered. Three class hours per week.

CE6665 Transportation Engineering

A one-semester course; three credit hours. Designed to familiarize the student with all forms of modern transportation systems; the advantages, disadvantages and peculiarities of each system. Systems studied include highway, railroad, airplane, water, pipelines, conveyors and undersea vehicles. Three class hours per week.

CE6671 Sanitary Engineering

A one-semester course; three credit hours. The course is designed to give the student a knowledge of the problems and solutions of water supply and sewerage. The course considers the problems of water from rainfall, through storage, storm drainage, hydraulics, distribution and treatment of drainage water; collection, disposal and treatment of sanitary sewage. Water and storm drainage and sanitary sewerage systems design is stressed. Three class hours per week.

CE6672 Soil Mechanics

A one-semester course; four credit hours. The course is designed to give the student a basic knowledge of the problems of soil. The course teaches the student to understand and evaluate the properties of soil materials.

Lectures are reinforced by the use of a soil testing laboratory which enables the student to develop a thorough knowledge of soil testing techniques and proper use of experimental data. The course also deals with the topics of the interaction of soils and groundwater, consolidation of soil and settlement of structures, and the bearing capacity of soil under foundations. Three class and three laboratory hours per week.

CE6682 Field Engineering Problems

A one-semester course; one credit hour. The course is designed to give the student practical field problems in surveying and civil engineering. Construction surveying, topographic surveying, subdivision layout and control are stressed. Advanced field and practical office techniques are covered. Three laboratory hours per week.

Prerequisite:
CE6602

CHEMISTRY

CH5501 General Chemistry I

A one-semester course; four credit hours. Deals with inorganic and physical chemistry. The study of the structure of atoms and the periodic nature of the elements. The examination of the relationship of energy and the elements to form compounds and the three physical states of matter: solid, liquid and gas. Three class hours and three laboratory hours per week.

Prerequisite:

One year of college mathematics

CH5502 General Chemistry II

A one-semester course; four credit hours. A continuation of General Chemistry I, dealing with physical and inorganic chemistry. Examines in detail the mechanical, thermal and electrical changes as demonstrated in solution theory, electrochemistry, chemical kinetics and chemical equilibrium. A brief introduction to organic chemistry is given. Three class hours and three laboratory hours per week.

Prerequisite:
CH5501

CH5503 Introductory Chemistry I

A one-semester course; four credit hours. The course covers the basic understanding of atomic structure of the elements and periodic table. The study of solid, liquid and gaseous states of matter is undertaken. Three class hours and two laboratory hours per week.

CH5504 Introductory Chemistry II: Inorganic Chemistry

A one-semester course; four credit hours. The course covers the study of solutions, acids, bases and neutralization. The application of physical chemical theory to inorganic chemistry. A brief review of organic chemistry is undertaken with special emphasis on how this aspect of chemistry relates to biological systems. Three class hours and two laboratory hours per week.

Prerequisite:
CH5503

CH5507 Introductory Chemistry II: Organic Chemistry

A one-semester course; four credit hours. Organic chemistry is the study of organic compounds. The course includes the synthesis of aliphatic and aromatic compounds from petroleum and coal derivatives and the study of the functional groups of these primary series. The course will provide a foundation for the study of complex carbon compounds in a technological society with special emphasis towards the understanding of the chemistry of the life sciences. Three class hours and three laboratory hours per week.

Prerequisite:

CH5503 or permission of instructor

CH5508 Instrumental Analysis

A one-semester course; four credit hours. The course deals with the theory and operation of instruments commonly used in scientific analysis. These instruments will include but not be limited to: pH meters, electrophoresis equipment, centrifuges, spectrophotometers (ultraviolet, visible and infra-red), chromatography and atomic absorption spectrometers. Three class hours and three laboratory hours per week.

COOPERATIVE EDUCATION

CI4401 Career Internship I

A one-semester course; three credit hours. Career Internship is designed to provide students with off-campus experiences related to their educational needs and/or career objectives, subject to the guidelines established by the student's academic department and the Office of Cooperative Education. Grade is based upon supervisor's evaluation of student growth, coordinator's evaluation of student performance, and advisor evaluation of what took place during the semester. A minimum of 140 hours of work experience is required per semester.

Prerequisite:

Prior approval of Division Coordinator responsible for student's program and the Office of Cooperative Education. Students are expected to work in volunteer/non-paid position.

CI4402 Career Internship II

A one-semester course; three credit hours. A second course designed to provide additional off-campus experiences in volunteer positions related to student's academic program and/or career objectives, subject to the guidelines established by student's academic department and the Office of Cooperative Education. Grade is based upon employer's evaluation of student's growth, coordinator's evaluation of student performance, and advisor's evaluation of what took place during the semester. Students are expected to increase their responsibilities over and above what was performed in either Cooperative Education I (CO4401) or Career Internship I (CI4401).

Prerequisite:

Prior approval of Division Coordinator responsible for student's program and the Office of Cooperative Education. Students are expected to work in volunteer/non-paid positions.

CO4401 Cooperative Education I

A one-semester course; three credit hours. Cooperative Education is designed to provide the student with practical experiences that are related to their educational needs and/or career goals, subject to the guidelines established by the student's academic department and the Office of Cooperative Education. Each student develops a list of objectives to be accomplished during the semester. At the end of the semester, an evaluation is made by the work-site supervisor and the co-op coordinator, and a self-evaluation made by the student of the accomplishments made during the period involved. A minimum of 180 hours of work at the work-site is required per semester.

Prerequisite:

Prior approval of Division Coordinator responsible for student's academic program and the Office of Cooperative Education. Students must have a co-op position before registering for Cooperative Education I.

CO4402 Cooperative Education II

A one-semester course; three credit hours. A second course in Cooperative Education is designed to provide students with additional off-campus experiences related to their educational needs and career goals, subject to the guidelines established by the student's academic department and the Office of Cooperative Education. Grade is based upon employer's academic evaluation of student growth, coordinator's evaluation of student performance, and overall evaluation by the student's advisor. Students are expected to increase their responsibility over and above what was performed during Cooperative Education I (CO4401) or Career Internship I (CI4401). A minimum of 180 hours of work experience is required per semester.

Prerequisite:

Prior approval of Division Coordinator responsible for student's program and the Office of Cooperative Education. Students must have a co-op position before registering for Cooperative Education II.

CRIMINAL JUSTICE

CJ3601 Concepts of Criminal Law

A one-semester course; three credit hours. The substantive law of crimes, its historical development and philosophy. This course includes classification of crime, definitions and elements of specific crimes, parties to a crime and defenses of a crime. Three class hours per week.

CJ3603 Introduction to Criminal Justice

A one-semester course; three credit hours. The history, philosophy and function of the criminal justice system in America, identifying the various sub-systems and role expectations. An overview of crime, punishment and rehabilitation ethics, education and training for professionals in the system. Three class hours per week.

CJ3607 Functions of Police in Modern Society

A one-semester course; three credit hours. The functions of the police in contemporary society will be analyzed in their historical, sociological, and political context. Particular emphasis will be placed upon the conflicting role expectations facing the police in a democracy. Special topics included will be police discretion, corruption, leadership and professionalization. Three class hours per week.

CJ3608 Introduction to Corrections

A one-semester course; three credit hours. An introduction and overview of fundamental processes, trends and practices of the correctional institutions. Dealing with but not limited to such concepts as institutional treatment, prisoner rights, parole, pre-release centers and government support of ex-offenders. Three class hours per week.

CJ3609 The Criminal Court System

A one-semester course; three credit hours. An examination of the concepts, values and procedures of the criminal court system with an emphasis on the district and juvenile court structures. Three class hours per week.

CJ3667 Crisis Intervention in the Criminal Justice System

A one-semester course; three credit hours.

How persons involved in Criminal Justice apply crisis theory, manage interpersonal conflict and use effective techniques of crisis intervention. Specific crisis situations frequently and somewhat uniquely encountered will be considered. These include, but are not limited to, family disputes, forcible rape, child abuse, potential suicide and hostage situations (including terrorism). Three class hours per week.

CJ3670 Senior Seminar

A one-semester course; three credit hours. Forum for criminal justice students focusing upon special issues in criminal justice. A primary emphasis will be the student's development of a "Senior Paper" which analyzes an agency in light of course work to date. Three class hours per week.

CJ3672 Field Practicum Experience

A one-semester course; three credit hours. Course for preservice students. Planned program of observation in selected criminal justice agencies representing the major components of the system. The student will select an agency provided by the coordinator and assist in activities deemed appropriate by the agency. Students shall be required to maintain a journal as specified by the field supervisor. One class hour and eight field hours per week.

Prerequisite:

Full-time enrollment in the Day Division's Criminal Justice Program. Student must be in his/her fourth semester.

COMPUTER TECHNOLOGY

CT6601 Fundamentals of Digital Logic

A one-semester course; three credit hours. The evolution of data processing or automatic computation. The mechanics of automatic computation including number system, logic, codes, arithmetic operations and

organizations are covered in detail. Three class hours per week.

CT6611 RPG Programming

A one-semester course; four credit hours. An introduction to RPG II Business Programming with applications. Report Program Generator topics include sequential file processing, business calculations, reports with headers, control breaks and total lines, and simple table or array processing techniques. Three class hours and three laboratory hours per week.

Prerequisite:

CT6633 or previous course in programming

CT6622 FORTRAN Programming

A one-semester course; four credit hours. A comprehensive study of FORTRAN with related mathematics. Three class hours and three laboratory hours per week.

Prerequisite:

CT6633 or previous course in programming

CT6624 PASCAL Programming

A one-semester course; four credit hours. A comprehensive study of structured programming with the PASCAL programming language. Topics include input and output statements, control statements, data types, function and procedure, arrays, records and files, and dynamic data structure. Three class hours and three laboratory hours per week.

Prerequisite:

CT6633 or previous course in programming.

CT6633 Introduction to Data Processing with BASIC

A one-semester course; four credit hours. An introductory data processing course focusing on the fundamental concepts of computer hardware and software. Basic concepts of computer technology, programming and processing with an emphasis on new programming methodologies and hardware advances in general, and on the BASIC language in particular. Three class hours and three laboratory hours per week.

CT6635 BASIC Programming I

A five-week course; one credit hour.

Fundamentals of programming, including terminal operation, flow charting, simple loops, branching, numeric and string variables. Three class hours per week.

Prerequisite:

CT6633 or previous course in programming

CT6636 BASIC Programming II

A five-week course; one credit hour. Nesting loops, subscripted variables, string manipulation, subroutines. Three class hours per week.

Prerequisite:

CT6635

CT6637 BASIC Programming III

A five-week course; one credit hour. Functions, data storage and retrieval techniques, advanced project of special interest to the student. Three class hours per week.

Prerequisite:

CT6636

CT6649 Assembly Language Programming for Business

A one-semester course; four credit hours. Basics of CPU, BCD arithmetic, instruction sets, addressing techniques, input/output, and bit manipulation are covered. Examples will stress business problems. Three class hours and three laboratory hours per week.

Prerequisite:

CT6601 and CT6633 (or the successful completion of another computer language).

CT6651 Assembly Language Programming

A one-semester course; four credit hours. A thorough study of the absolute machine language and the assembler for the computer on campus. Fixed and floating point instructions, addressing techniques, input/output, relocation, macros and subroutines are covered. Three class hours and three laboratory hours per week.

Prerequisite:

CT6601, CT6633, ET6690

CT6652 COBOL Programming

A one-semester course; four credit hours. An

introduction to Structured COBOL Programming with applications. COBOL topics include sequential file processing, business calculations, reports with headers, control breaks and total lines, and simple table or array processing techniques. Three class hours and three laboratory hours per week.

Prerequisite:

CT6633 or previous course in programming

CT6653 Advanced Business Programming

A one-semester course; four credit hours. This course covers the advanced concepts of the COBOL and RPG II programming languages. Topics include table and array processing techniques, sequential and index sequential disk files, sort routines and interactive program processing techniques. Three class hours and three laboratory hours per week.

Prerequisite:

CT6611 and CT6652

CT6661 Advanced Computer Systems Programming

A one-semester course; four credit hours. Advanced topics such as disk and the file organization, interrupt programming, linkage of programs written in different languages plus a study of the various instruction formats and types of instructions found in modern equipment. Three class hours and three laboratory hours per week.

Prerequisite:

CT6651

CT6676 Business Systems Development and Design

A one-semester course; four credit hours. Effective use of data processing equipment in meeting the needs of business. The approach, requirements of the systems, developing the solution, data and system implementation. Three class hours and three laboratory hours per week.

CT6682 Computer Application in Engineering and Technology

A one-semester course; four credit hours. The course is designed to give the student a knowledge of the computer solutions to the great quantities of calculations that are

necessary in practice. Basic computer operation and programming techniques are covered with emphasis on such languages as BASIC and FORTRAN.

Prerequisite:

MA5622 concurrently or MA5691

CT6683 CPU & Systems Troubleshooting

A one-semester course; four credit hours. An overview of the computer system including CPU architecture, CPU timing, ALU, interrupt handling. Also included is the operation of the system with hardware and software implementation, organization of the memory, magnetic recording and video display techniques. Three class hours and three laboratory hours per week.

ECONOMICS

EC3322 Micro-Economics

A one-semester course; three credit hours. Introduction to micro-economics. This semester centers upon the functioning of individual markets and their effectiveness for resource allocation. Includes price and production theory, the distribution of income, and the theory of household behavior. Three class hours per week.

EC3323 Macro-Economics

A one-semester course; three credit hours. Introduction to macro-economic analysis and policy. An examination of the foundation and nature of economic principles as they apply to national output, money and banking, and monetary and fiscal policy. Course also focuses upon the problems of employment, inflation and economic growth as illuminated by modern national income analysis. Three class hours per week.

EC3652 Survey of Economics

A one-semester course; three credit hours. A non-technical survey of current economic problems. Background of economic concepts and terminology. Some focus on comparative economic systems. Not recommended for transfer students. Three class hours per week.

EDUCATION

ED0401 Teaching Reading in Early Childhood

A one-semester course; three credit hours. Basic early childhood (pre-school through grade 3) reading skills and teaching techniques will be explored. Topics include children's literature, reading readiness, phonics and other word analysis skills, vocabulary, comprehension, the dyslexic youngster, diagnostic tools, area reading programs and current issues. This course is directed primarily to those interested in working with the lower primary-aged child. Three class hours per week.

ED0402 Teaching Reading Readiness

A one-semester course; three credit hours. An imaginative and creative approach to teaching readiness skills through literature for the primary child. Behavioral characteristics of young children and their implications relating to books will be the focus of the course. Picture books, storytelling, folk tales, fantasy, puppetry, dramakinetics, reading aloud, oral language development, along with guidelines for assisting the child in becoming more ready for beginning reading instruction, will be explored and demonstrated. This course is directed primarily for anyone who is or who seeks to work with the pre-school child. Three class hours per week.

ED0403 Teaching Reading in the Elementary Grades

A one-semester course; three credit hours. A variety of instructional approaches from basal readers to individualized reading programs will be explored. This course focuses primarily on techniques and materials for teaching basic elementary reading skills, readiness, phonics and word analysis, vocabulary, comprehension and study skills. Students will gain familiarity with diagnostic tools including the Informal Reading Inventory. Current issues will be examined. Three class hours per week plus out-of-class projects and experiences.

ED2203 Introduction to Communication Disorders.

A one-semester course; three credit hours. An overview of language disorders will be presented. The language learning process as it relates to child development will be discussed. Causes of communication breakdown will be explored. Materials and techniques to deal with these communication disorders will be demonstrated. This course is recommended for paraprofessionals, teachers and parents dealing with language disorders in youngsters. Three class hours per week plus out-of-class projects and experiences.

ED2206 Introduction to Speech Disorders

A one-semester course; three credit hours. Discussion of a wide range of speech disorders, including stuttering, articulation, voice, hearing-impaired, cleft palate, and others. Identification and remediation procedures will be discussed as well as affect of speech disorders on school performance.

Prerequisite:

Completion of ED2203 or permission of the instructor.

ED2207 Introduction to Special Needs Children

A one-semester course; three credit hours. This course will discuss major areas of exceptionality for the pre-school through the sixth grade child: learning disabled, mentally retarded, emotionally disturbed and gifted. Topics to be covered will include historical background, definitions, characteristics, terminology, medical components, diagnosis, legal aspects, educational settings, and emerging direction of special education. The focus will be on providing for special needs children in the public school resource rooms,

Prerequisite:

PS2114 Problems of the School-Age Child or permission of instructor/coordinator.

ED2208 Strategies for Teaching Special Needs Children

A one-semester course; three credit hours. This course will present teaching strategies for special needs children. Programming for the following areas of exceptionality will be emphasized: learning disabled, emotionally

disturbed, mentally retarded, and gifted. Topics covered will include overview of special needs observation techniques; strategies for teaching visual skills, audio skills, language development, motor skills, reading written expression, math, content areas, behavior management, and educational planning. Three class hours per week.

Prerequisite:

ED2207 Introduction to Special Needs Children or permission of instructor/coordinator

ED2210 Introduction to Classroom Experience

A one-semester course; one credit hour. An initial opportunity for observation and work experience in the classroom setting, including mechanics, group work, individual tutorial assistance and other related and relevant activities. Students will keep a daily journal of their activities, as specified by the practicum supervisor. Four practicum hours per week.

Prerequisite:

Enrollment in the program or permission of the coordinator.

ED2212 Classroom Experience I

A one-semester course; four credit hours. The student will develop increased familiarity with the role and responsibilities of the educational assistant. Under the supervision of a cooperating teacher, the student will work with children in large and small groups as well as in a tutorial manner. The student will also assist the teacher in other activities deemed valuable and appropriate. Students shall be required to maintain a journal as specified by the practicum supervisor. One class hour and twelve practicum hours per week including preparation and conference time.

Prerequisite:

Enrollment in the program or permission of the coordinator.

ED2244 Introduction to the Role of Educational Assistant

A one-semester course; three credit hours. The primary objective of the course is to assist the student in better understanding the role and responsibilities of an educational assistant. Course activities will include lectures, guest speakers, small and large

group discussion and field trips. The emphasis of all activities will be upon a sharing of knowledge and experience in order to assist the student to more clearly understand the assistant's role. Three class hours per week.

ED2255 Classroom Experience II

A one-semester course; four credit hours. The student shall build upon the experience gained in ED2244 and ED2212 in developing increased familiarity with the role and responsibilities of the educational assistant. Students shall be required to maintain a journal as specified by the practicum supervisor. One class hour and twelve practicum hours per week, including preparation and conference time.

Prerequisite:

Enrollment in the program or permission of the coordinator.

ED2256 Classroom Experience III

A one-semester course; four credit hours. The student shall build upon the experience gained in ED2210, ED2244, ED2212 and ED2255 in developing increased familiarity with the role and responsibilities of the educational assistant. One class hour and twelve practicum hours per week, including preparation and conference time.

Prerequisite:

Enrollment in the program or permission of the coordinator.

ED2260 Intensive Classroom Experience

A four-week course; three credit hours. The student shall work in a classroom for five full days for four consecutive weeks. The student will build upon experience in ED2212. The course provides an opportunity for the student to follow through on learning activities and to participate in a variety of experiences not available in other courses in which work is done two days each week. There will be four class sessions of four hours duration with the practicum supervisor. A journal will be required as specified by the practicum supervisor. This course may be taken in lieu of ED2212, ED2255 or ED2256. 128 to 140 practicum hours and 16 classroom hours per semester.

Prerequisite:

Enrollment in the program and permission of the coordinator.

ED2262 Education Seminar

A one-semester course; three credit hours. In this seminar course the students will be given an opportunity to summarize and analyze their classroom experience. In addition, they will be exposed to and involved in a number of areas directly related to the role and responsibilities of the educational assistant. Guest speakers, research projects, seminar discussions and other activities will be included. Three class hours per week.

ENGLISH

EN0101 Journalism I

A one-semester course; three credit hours. The course provides background and training in journalistic writing with the emphasis on the techniques of newspaper reporting and publication. Attention is also given to preparation of scripts and tapes for broadcasting as well as writing the press release. Three class hours per week.

EN0102 Journalism II

A one-semester course; three credit hours. Advanced reporting and news production. Assignments relate to covering public affairs (including local government and community services) in the Merrimack Valley. The student will assist in the production of THE OBSERVER, the student newspaper. Required: at least five well-developed articles published in area publications. Three class hours per week.

Prerequisite:

EN0101 or permission of the instructor.

EN0103 Journalism Practicum

A one-semester course; three credit hours. The course provides practical experience in professional journalism through internships at area newspapers, broadcasting stations or public relations departments of area institutions and agencies. A faculty member and representative of the employing agency coordinate and evaluate the student's work. One class hour and six practicum hours per

week.

Prerequisite:

EN0102 and recommendation of faculty teaching courses in the Course Concentration in Journalism, Film and Broadcasting.

EN0121 Creative Writing

A one-semester course; three credit hours. The theory and practice of all kinds of creative writing: poetry, fiction, drama, non-fiction narrative. Emphasis on students' own writing, group discussion, and readings in professional writers appropriate to students' writing. Three class hours per week.

EN0400 Introduction to Reading Strategies

A one-semester course; three credit hours. A course designed to help students improve their basic reading skills. Through group and individualized instruction, the course helps the student develop the skills, habits and attitudes that will result in more effective reading. Topics include word analysis, vocabulary development, comprehension techniques, and study skills. Instructional materials are at an appropriate level. Much attention is given to the development of individualized skills in the Reading Lab, and for this reason pre-and post-diagnostic tests are given. Two class hours and two laboratory hours per week.

EN0401 Reading Strategies

A one-semester course; three credit hours. This course is designed to meet a variety of more advanced reading and study skill needs, primarily the need to read college level materials more effectively. Students learn to recognize main ideas, to read an article or chapter and remember its key points, to take inclusive, meaningful notes, to read actively and critically, to explore memory techniques, and to respond to our language with greater vocabulary depth. Three class hours and one laboratory hour per week.

EN1280 ESL I

A one-semester course; six credit hours. Review of fundamentals. Study of English as a Second Language for non-native speakers. Small group and individualized instruction. Fourteen instructional hours per week.

EN1281 ESL II

A one-semester course; six credit hours. Preparation for college writing for non-native speakers. Emphasis on structure of writing. Reading and writing instruction are individualized. Fourteen instructional hours per week.

Prerequisite:

Satisfactory score on placement test.

EN1282 ESL III

A one-semester course; three credit hours. Grammar for college composition for non-native speakers. Seven instructional hours per week.

Prerequisite:

Satisfactory score on placement test and fluency in English conversation skills.

EN1283 ESL IV

A one-semester course; three credit hours. Techniques for college composition for non-native speakers. Seven instructional hours per week.

Prerequisite:

Satisfactory score on placement test and fluency in English conversation skills.

EN1284 ESL Reading Skills

A one-semester course; three credit hours. ESL Reading Skills is a course intended for intermediate and advanced students of English as a Second Language who are not ready to read college materials in English. Topics include vocabulary development, dictionary usage, word analysis, reading fluency and comprehension. An emphasis is placed on readings that include English for Special Purposes, enabling the student to attain greater success in courses containing technical vocabulary. Much attention is given to development of individualized skills during the two laboratory hours. Diagnostic pre and post tests are given. Two class hours and two laboratory hours per week.

EN2457 Film Production

A one-semester course; three credit hours. The student will learn: 1) the basic tools and technology of the Super 8 film format; and 2) the practical and aesthetic application of this knowledge to creative filmmaking through

assignments in theory and filmmaking projects. The student will pay for the cost and processing of film used. Three class hours per week. Limited to 12 students.

Prerequisite:

EN8885 or permission of the instructor.

EN3333 Broadcast Reporting and Announcing

A one-semester course; three credit hours. The student will learn through the study of current radio and television practices: 1) how to edit and write news items for the radio and TV news media; 2) how to broadcast these items on radio and TV; 3) how to use basic equipment associated with radio and TV news gathering and production; and 4) how to evaluate current broadcasting practices. Students are encouraged, though not required, to have access to a portable tape recorder and stop watch. Three class hours per week.

EN3334 Television Production I

A one-semester course; three credit hours. The student will learn through the study of current television practices: 1) how to write for, edit, produce and direct various complete television programs in a non-dramatic format; 2) how to operate the equipment in the TV studio and control centers; and 3) how to evaluate television content. While the emphasis will be on the TV news program in which the student will learn how to work as an assignment editor and anchor person, the student will also learn the basic techniques of the extended interview, the panel show and the documentary. Three class hours per week. Limited to 18 students.

Prerequisite:

EN3333 and permission of the instructor.

EN3335 Television Production II

A one-semester course; three credit hours. The course builds upon the basic skills learned in Television I by utilizing the crew system in the television studio and control room. Each student is required to produce (plan, write, stage, and direct) one television program on a topic of his choice to demonstrate these competencies: 1) the

ability to write a standard television script; 2) the ability to use the specialized language of television; 3) the ability to select and adapt audio and visual materials appropriate to the subject of the program. Each student will be required to assist in the television production of at least two projects related to the college's performing arts (mime, dance, drama, music). Three class hours per week. Limited to 18 students.

Prerequisite:

Successful completion of Television Production I.

EN4311 Communications I

A one-semester course; three credit hours. A writing course related to both Reading Strategies and Humanities I; designed for students in the Discovery Program only. Focuses on written forms of communication demanded at the college level, especially the paragraph, the short composition and the documented essay. Three class hours per week.

EN4400 Basic Writing

A one-semester course; three credit hours. Designed for students who lack the writing skills necessary to succeed in English Composition I. Emphasizes the composition of sentences, paragraphs and short essays. Attention is also given to punctuation, grammar and spelling on an individualized basis. This course does not satisfy any part of the English Composition requirement for graduation. Enrollment is dependent upon referral by the Composition I faculty on the basis of a writing sample, faculty advisor's or counselor's referral, or permission of the instructor. Students for whom English is a second language are strongly urged to have completed ESL IV or have equivalent knowledge. The instructor may require one laboratory hour per week, in addition to the class hours. Three class hours per week.

EN4401 English Composition I

A one-semester course; three credit hours. A required course to develop clear, effective writing, including the special techniques in communication and the development of ideas that enable students to organize their thoughts and interest others in what they say.

Students will be required to demonstrate their writing competency based upon written minimum standards established by the department. Three class hours per week.

Prerequisite:

Students entering English Composition I will be required to produce a writing sample. Students whose writing sample gives evidence of deficiency, based upon the department's criteria, will be strongly urged to postpone taking English Composition I until they have completed a preparatory writing or reading course or done other independent remedial work supervised by a staff member.

EN4402 English Composition II

A one-semester course; three credit hours. Analytical writing: focus on thesis/support papers and extending their range. Three options are offered: any one of the options fulfills the English composition requirement, but none of the options fulfill a literature requirement.

OPTION 1: Introduction to Literature (denoted by IL). An examination of selected literary forms (short story, novel, poem, drama) through study of form or theme. Selections will be made on the grounds of literary excellence, accessibility and immediacy of interest.

OPTION 2: Literature and Film (denoted by FO). Readings and feature-length film viewings designed to explore both verbal and visual signs and symbols, and to discover the similarities and differences between cinematic and literary forms.

OPTION 3: Introduction to Non-fiction Literature (denoted by NT). An examination of selected autobiographical excerpts and personal essays, followed by a study of a longer work on a topic of current interest, and concluding with a research project based on a choice of topics.

Three class hours per week.

Prerequisite:

Completion of EN4401 with a grade of C or better.

EN4676 Technical Writing

A one-semester course; three credit hours. Engineering and scientific report writing. General inductive exposition with emphasis upon research writing, industrial reports and graphic techniques. Three class hours per week.

Prerequisite:
EN4401 and EN4402

EN4678 Spelling Laboratory

A one-semester course; one credit hour. Individualized help for the poor speller. Students enrolling in this course will be given a diagnostic test to locate particular spelling problems: an individualized program involving intensive practice with spelling tapes and workbooks will be set up. The credit earned in this course does not satisfy any part of the composition requirement for graduation. Two laboratory hours per week held in the Writing Center and/or the Audio Laboratory.

Prerequisite:
Permission of the instructor

EN5500 Introduction to Language

A one-semester course; three credit hours. A general overview of the study of language to include: the origin and development of language; the universal properties of language; language acquisition; dialects; meaning changes; and semantics. Various languages, American Sign Language, and history of the English language will be discussed. Three class hours per week.

EN8011 Speech/Oral Communication

A one-semester course; three credit hours. Instruction and practice in skills essential to effective oral communication. The course includes organization, presentation, audience analysis and group theory. Three class hours per week.

EN8012 Oral Interpretation

A one-semester course; three credit hours. Designed to present the various techniques in effective oral reading. Stress is placed on vocal flexibility, imagery and emotional involvement. A wide range of dramatic literature will be used. Three class hours per week.

EN8401 Children's Literature

A one-semester course; three credit hours. An introductory course in children's books. Considers the history of children's literature and contemporary authors. Study of criteria of good literature, children's interests and developmental stages related to books, various genre of children's literature, children's book awards, illustrators and authors, and reference sources. Three class hours per week.

EN8801 The Bible As Literature

A one-semester course; three credit hours. Designed to capture the literary content, qualities, and techniques of the Hebrew and Greek scriptures in translation, with particular emphasis on the Old Testament. Genres to be analyzed include the heroic narrative, epic, tragedy, lyric poetry, encomium and others. Three class hours per week.

EN8851 American Literature Before 1900

A one-semester course; three credit hours. A survey of such significant authors of the 17th, 18th, and 19th centuries as Bradstreet, Franklin, Irving, Hawthorne, Emerson, Thoreau, Melville, Whitman, Dickinson, Twain, Crane and James. Three class hours per week.

EN8852 American Literature Since 1900

A one-semester course; three credit hours. James, Hemingway, Fitzgerald, and Faulkner indicate the range of our prose. Porter, O'Connor, Ellison and Baldwin, the fact that it extends to women and blacks. Our century is rich in poetry as well thanks to Robinson, Frost, Williams, Pound and Ginsberg. A survey of twentieth-century literature, with varying selections among these authors and others. Three class hours per week.

EN8853/EN8854 British Literature I and II

A two-semester course; three credit hours per semester. A study of the major works of selected English poets, dramatists and prose writers, with their historical and literary background, will be directed through lectures

and reading, with special exercises in interpretation and criticism. Three class hours per week.

EN8856/EN8857 Literature: Major Writers I and II

Two one-semester courses; three credit hours per semester. An examination of the principal works of one or two major writers of Classical, European, English, American, Latin American, Asian, or African literature. The author or authors examined will differ each semester. Three class hours per week.

EN8861 Western Literature from Homer to Dante

A one-semester course; three credit hours. Among the authors will be a preponderance of Greeks - Homer, Aeschylus, Sophocles, Euripides, Aristophanes and Plato - because of the richness of ancient and classical literature in Greece. Romans such as Ovid and Virgil and anonymous medieval authors will also be read, for the pleasures they afford and the signs they give of how and why cultural artifacts are transmitted. Three class hours per week.

EN8862 Western Literature from Dante to the Present

A one-semester course; three credit hours. Great books from the last thousand years, written in languages other than English and wonderfully readable in translation. Dante, Machiavelli, Moliere, Voltaire, Ibsen, Gogol, Dostoevsky, Chekhov, Kafka and Malraux suggest the variation in selection that will occur from year to year. Three class hours per week.

EN8863 Modern European Literature

A one-semester course; three credit hours. Focus on the individual's existential response to the human condition as seen in the works assigned; treatment of literary movements represented by these works: existentialism, new-romanticism, rural naturalism, symbolism, impressionism, expressionism, literature of psychology. Supplementary readings on philosophy, religion, psychology as they apply to various works. One major project required in addition to readings. Three class hours per week.

EN8864 Literature: Shakespeare

A one-semester course; three credit hours. Shakespeare provides a more comprehensive sense of human nature and potential than any of our other writers. Selected plays will be analyzed to understand, first, each play's internal workings; and second, Shakespeare's rapidly evolving moral and artistic concerns. This course cultivates students' abilities to read the plays comfortably, to follow and enjoy a performance, and to write about the plays with understanding. Three class hours per week.

EN8867 Mythology and Literature

A one-semester course; three credit hours. The study of the stories a society cannot forget. Using texts ranging from the Bible and Homer's epics to contemporary literary works, the course introduces mythological approaches to such subjects as heroism, place, time, family and human nature and discusses the relationship between mythology and other more limited human studies, including religion, psychology, history and sociology. Three class hours per week.

EN8871 Literature: The English Novel

A one-semester course; three credit hours. Reading and discussion of great representative novels from 1740 to the present. Readings to be selected by the instructor. Three class hours per week.

EN8882 Literature: Women's Lives Recorded and Imagined

A one-semester course; three credit hours. A study of women's lives, primarily in women's words, through biography, autobiography, journals, letters and fiction. Includes, as written materials permit, women from all walks of life: famous, infamous and previously unknown, exploring both historic and imaginative limits set on women's selfhood. Students will develop critical perspectives on uses of literary sources and will apply what they learn to contemporary women's lives. Three class hours per week.

EN8883 Women in Literature and Life

A one-semester course; three credit hours. A

study of literary and historical accounts of women in courtly society - late Middle Ages through early Renaissance - and in democratic society - 1890 to 1970 - for the purpose of tracing the cultural influence of an idea, the idea of courtly love, on literature and life. Three class hours per week.

EN8884 Literature: Twentieth Century Women in Film

A one-semester course; three credit hours. Offers the student an examination of the multiple views of woman as seen through the cinema. Looking at examples from literature and film, the student will be exposed to the varied attitudes toward self, beauty, socialization, exploitation and destiny of the twentieth-century woman. It is suggested that the student take EN8883 Women in Literature and Life prior to this course, but it is not mandatory. Two class hours and two laboratory hours per week.

EN8885 Literature: The Art of the Movies

A one-semester course; three credit hours. This course will attempt to foster critical taste in film. Students will explore the role of film in contemporary society by viewing and discussing documentaries, experimental films, impressionistic films, animated films and commercial films. Discussion and analysis will acquaint the student with the interrelationship of film technique and content. Two class and two laboratory hours per week.

EN8891 Literature: Introduction to Poetry

A one-semester course; three credit hours. Designed to acquaint the student with the various forms and scope of poetry. This course is to be an overview of the concept of poetry. Three class hours per week.

EN8893 Literature: The Contemporary Novel

A one-semester course; three credit hours. Readings in British, American, French, German, Russian and South American fiction, with special emphasis on philosophical and archetypal linkages. Three class hours per week.

EARTH SCIENCE

ES5010 Earth Science

A one-semester course; three credit hours. A survey of the earth sciences. This course will examine various earth systems and processes including the earth as a planet, the atmosphere and weather, the oceans, the solid earth and its minerals, and such processes as volcanism, weathering, glaciation, erosion and tectonics. This course should not be taken by students who have had Physical Geology or Meteorology. Three class hours per week.

ES5501 Meteorology

A one-semester course; four credit hours. A basic study of the elements which constitute weather: temperature, pressure, winds, humidity and precipitation. Further study includes global patterns of weather conditions and the resultant climatic zones. Three class hours and two laboratory hours per week.

ES5502 Physical Geology

A one-semester course; four credit hours. Introduction to landforms and the processes of their formation: erosion by wind, water, ice, beaches and wave action. Further study is accomplished through the use of topographic maps. Additional topics include descriptions of basic rocks and minerals, volcanism, mountain building and crustal movement. Three class hours and two laboratory hours per week.

ES5504 Mineralogy

A one-semester course; three credit hours. An introductory course in the basic rock-forming minerals. The classification of minerals is examined on the basis of chemical, physical and optical properties, with an introduction to crystal structure. The course concludes with a study of basic rock groups based on their mineralogical composition. Laboratory work centers on the identification of the more important minerals in both hand specimens and microscopic thin sections. Two class hours and two laboratory hours per week.

Prerequisite:

ES5502 or permission of the instructor.

ES5506 Introductory Astronomy

A one-semester course; three credit hours. Introduction to the principles and methods of astronomy. Topics: the scope and history of astronomy, coordinate systems, major constellations, basic navigation, time and the calendar, astronomical instruments, solar system astronomy including the earth as a planet and its motions, the moon, tides, the sun, and stellar and galactic evolution. Three class hours per week.

ELECTRONICS

ET6111 Introduction to Electricity

A one-semester course; four credit hours. An introduction to DC resistive circuits including the use of meters to measure resistance, voltage, current and power. Ohm's law, series circuits, parallel circuits. RC circuits including capacitance, inductance, electromagnetism, frequency, time constants, sine waves. Analysis of AC circuits including resonant circuits, transformers, function generators, FETVOM's and DVM's. Not applicable to a degree in Engineering Science, Electronic Technology or Computer Maintenance Technology. Three class hours per week and one three-hour laboratory period per week.

ET6113 Introduction to Electronics

A one-semester course; one credit hour. A basic course introducing the student to electronics, the course covers elementary circuitry, the relationship of voltage and current, scientific notation, simple amplification, radio and television systems, explanation of the oscilloscope, resistor combinations and power, meters, inductors, capacitors, and semi-conductors. Two class hours per week.

Prerequisite:

Basic Algebra or permission of instructor.

ET6601 Engineering Graphics

A one-semester course; two credit hours.

This course stresses communication by graphical or pictorial means. Lettering, graphics sketching, orthographic projection, auxiliary views, dimensioning and descriptive geometry principles are topics covered. Neatness is emphasized throughout. One class hours and three laboratory hours per week.

ET6603 Digital Laboratory

A one-semester course; one credit hour. Soldering, wire-wrapping and proper interconnection of TTL integrated circuits. Experiments in digital logic circuits using gates, flip-flops, counters, etc. One three-hour laboratory period per week.

Prerequisite:

Fundamentals of Digital Logic to be taken concurrently or previously.

ET6611 Circuit Analysis I

A one-semester course; four credit hours. Introduction to the analysis of electric circuits using DC sources. Applications of Kirchoff's Voltage and Current Laws, superposition, loop analysis, nodal analysis and Thevenin's Theorem. Three class hours and three laboratory hours per week.

Prerequisite:

MA5621 to be taken concurrently or previously.

ET6612 Circuit Analysis II

A one-semester course; four credit hours. Extension of the theorems developed in ET6611 as they apply to circuits excited by sinusoidal sources. Energy considerations, storage of energy, RMS determinations and transformers. Three class hours and three laboratory hours per week.

Prerequisite:

ET6611 and MA5621

ET6651 Engineering Mechanics I - Statics

A one-semester course; three credit hours. Development of fundamental concepts of mechanics such as vectors, forces and moments. Detailed treatment of free body diagrams and their application to force systems. Laws of static equilibrium, friction forces, first and second moments, and problems involving various structures and machine parts. Methods of solution will

include vector analysis, matrix methods and computer-aided analysis. Three class hours per week.

Prerequisite:

PI5623 and MA5692 or equivalent.
MA5692 may be taken concurrently.

**ET6652 Engineering Mechanics II
- Dynamics**

A one-semester course; three credit hours. Basic laws of kinematics of particles and rigid bodies involving linear, angular, relative and absolute motion. Newton's Laws and their application to the kinematics of rigid bodies in translation, rotation and plane motion; and the principles of work, kinetic energy, impulse and momentum. Methods of solution will include vector analysis, matrix methods and computer-aided analysis. Three class hours per week.

Prerequisite:

ET6651

ET6653 Circuit Analysis III

A one-semester course; four credit hours. Study of the behavior of electric circuits excited by non-linear sources. Fourier series, pulse circuits and non-linear elements. Three class hours and three laboratory hours per week.

Prerequisite:

ET6612

ET6655 Electronics V-Measurements

A one-semester course; four credit hours. Study of the problems in precise measurements of the fundamental parameters of voltage, current, velocity, acceleration, displacement, time and events per unit time. Emphasis will be on usage and limitations of current equipment. Three class hours and three laboratory hours per week.

Prerequisite:

ET6612

ET6661 Networks I

A one-semester course; five credit hours. Introduction to general network solutions employing mathematical models and topology. The study of circuit analysis employing Kirchoff's laws, Thevenin's Theorem, Norton's Theorem, superposition and maximum power theorems, is emphasized. Four class hours and three

laboratory hours per week.

Prerequisite:

**MA5692 or equivalent; MA5693
should be taken concurrently.**

ET6662 Networks II

A one-semester course; five credit hours. Sinusoidal analysis of circuits employing phasor analysis. Sinusoidal steady state response found by nodal, mesh, superposition, source transformations. Thevenin's Theorem and phasor diagrams are explained. RMS values and average power and complex power is studied in detail. Major emphasis is placed on analysis using complex frequency (S-Plane). This would include frequency response of RL, RC, and RLC circuits (including resonance). The remainder of the course deals with two port network parameters and Fourier series analysis. Four class hours and three laboratory hours per week.

Prerequisite:

ET6661, MA5685 concurrently

ET6672 Electronics I

A one-semester course; five credit hours. A first course beginning with introductory semiconductor physics and semi-conductor devices. Biasing and stability of devices and small signal models of same. Applications of semi-conductors in rectifiers and amplifiers. Field effect transistors. Four class hours and one three-hour laboratory period per week.

Prerequisite:

ET6611, ET6612 concurrently

ET6673 Electronics II

A one-semester course; five credit hours. The analysis of the behavior of multistage amplifiers, power amplifiers, tuned circuit amplifiers, feedback amplifiers and oscillators. Integrated circuits, including differential and operational amplifiers and voltage regulators. Four class hours and one three-hour laboratory period per week.

Prerequisite:

ET6672

ET6682 Digital Electronics

A one-semester course; four credit hours. A study of traditional logic design as well as newer techniques utilizing MSI and LSI. Both combinational logic and sequential logic are

covered including registers and counters. Also included is an introduction to memory and programmed logic. Three class hours and one three-hour laboratory period per week.

Prerequisite:

ET6612, ET6672, CT6601

ET6684 Electronic Systems

A one-semester course; four credit hours. Types and characteristics of electronic systems. Introductory system analysis. Transducers and other system components. Integrated circuits including operational amplifiers, multipliers, D/A and A/D converters, phase locked loops. Applications of the above in communication and instrumentation systems. Three class hours and one three-hour laboratory period per week.

Prerequisite:

ET6612, ET6672

ET6690 Microcomputers

A one-semester course; four credit hours. Introduction to microprocessors including basics of the CPU, timing and addressing instruction sets, assembly language programming, memory, input/output techniques, interfacing. Three class hours and three laboratory hours per week.

Prerequisite:

CT6601

ENVIRONMENTAL TECHNOLOGY

EV5625 Sanitary Chemistry I

A one-semester course; four credit hours. Theory and laboratory technique for all control tests of water purification including bacteriology, color, turbidity, pH, alkalinity, hardness, coagulation, chlorides, fluorides, iron, manganese, detergents, bactericides and nitrates. Three class hours and three laboratory hours per week.

EV5626 Sanitary Chemistry II

A one-semester course; four credit hours. Theory and laboratory technique for the determination of solids, dissolved oxygen, oxygen consumed, relative stability, water and sewage bacteria, biochemical oxygen

demand, organic nitrogen, volatile acids, toxic metals, stream studies, in-plant studies at nearby plants. Three class hours and three laboratory hours per week.

Prerequisite:

EV5625

FINE ARTS

FA7012 Introduction to the Creative Experience

A one-semester course; three credit hours. This course is designed to introduce methods, materials and meaning of the arts to those who are involved in developmental programs - childhood to adulthood. It is the way to explore the world through non-verbal experiences which are personal to each one. Emphasis is placed on spontaneity, imagination, invention and flexibility of each student. Three class hours per week.

FA7020 Introduction to the Creative Arts

A one-semester course; three credit hours. An interdisciplinary approach to the arts, with emphasis on both the experience of the arts and theory. The course is designed to give students an overview of all the arts by emphasizing the actual experience of dance, theatre, art and music. It is intended to give the student a strong sense of the enjoyment, excitement and pleasure that the arts can provide. Three class hours per week.

FA7051 Introductory Photography

A one-semester course; three credit hours. This course provides the basic theory and practice of black and white photography. It covers such topics as camera controls, exposure, the nature of available and artificial light, negative and positive materials and chemicals, composition and film and print processing procedures. A variety of assignments provides practice in the use of photographic equipment, solving photographic problems and processing photomaterials in the darkroom. Two class hours and one two-hour laboratory workshop period per week.

FA7052 Intermediate Photography

A one-semester course; three credit hours. Advanced techniques and projects in black and white photography and the basic theory and practice of color photography. Emphasis is on photographic self-expression and the techniques of creative photography including an introduction to studio and laboratory controls. Projects may be done in black and white or color. Part of the course allows students to work in a variety of different areas of photography according to each student's interest and desire. Two class hours and one two-hour laboratory workshop period per week.

FA7081 Introduction to Art: Theory and Practice

A one-semester course; three credit hours. Discussion and evaluation of all types of visual works of art. The class will deal with such questions as: What is Art? What is the role of Beauty in the definition of Art? How does one evaluate a work of Art? What is Creative Process? Who is the Creative Person? Three class hours per week.

FA7083 Art Workshop I: Painting and Drawing

A one-semester course; three credit hours. An introduction and an exposure to various materials which have the potential for two-dimensional expression. Emphasis will be on experiencing new materials and the inherent properties of these materials. All materials shall be provided by the student. There will be a total of five units, each exploring a different medium of expression. Two three-hour classes per week.

FA7084 Art Workshop II: Painting and Drawing

A one-semester course; three credit hours. An introduction to composition and structure in two dimensions. Emphasis will be placed on explorations into the relationship between FORM and SPACE on the flat surface. Having come to some understanding of the potential of various materials, this semester will focus on using those materials to create compositions that involve a more complex analysis of space and form. The various visual

elements of position, size, shape, line, color density, texture and space will be analyzed as to their function in a particular composition. Two three-hour classes per week.

Prerequisite: FA7083

FA7091 Dance in Performance

A one-semester course; three credit hours. The course will include a review of the basic techniques of Modern Dance, advance to more involved training in technique, movement and improvisation, and focus on the principle of dance production. Students will be introduced to production areas such as choreography, programming, costuming, lighting, public relations, audio-visual, special effects and budget, and they will participate in the final performance of the semester, Stillpoint, given for the community. Three class hours per week.

FA7094 Dance Composition

A one-semester course; three credit hours. The course is designed to provide students with a broad perspective on movement, choreography and composition, through the study of dance history and various choreographic techniques. Students will have the opportunity to create and perform their individual works in a student performance to be given at the end of the semester. Three class hours per week.

FA7095 Introduction to Graphic Arts

A one-semester course; three credit hours. The course will focus on methods of printmaking which are used to create various types of graphic designs. Media to be covered are linoleum cuts, wood cuts, block prints. Four class hours per week (two lecture hours and two studio hours).

FA7096 Introduction to Commercial Art

A one-semester course; three credit hours. An introductory course focusing in on the principles of color, line and design as a basis upon which to build a greater knowledge of the commercial field. Consideration will be given to lettering, layout, paste-up and illustration. Four class hours per week (two lecture hours and two studio hours).

FINANCE

FI3652 Business Finance

A one-semester course; three credit hours. Principles and practices of business finance. The short and long term sources of funds, management of financial assets, capital requirements, alternative forms of financing and the capital market. Some use of case study method. Three class hours per week.

Prerequisite:
AC6602

FI6651 Principles of Insurance

A one-semester course; three credit hours. Study of the principles of risk management and how insurance handles risk. The concept of risk management is outlined. Insurance coverages for the following are studied: property, liability, life and health. Three class hours per week.

FI6663 Principles of Real Estate

A one-semester course; three credit hours. Survey of the various areas of real estate practice and the principles involved in the purchase, valuation and selling of real estate. Three class hours per week.

FRENCH

FR4401/FR4402 Introductory

French I & II

A two-semester course; three credit hours per semester. For students who have not completed two years of secondary school French or the equivalent as determined by the department. An introduction to the basic grammatical patterns of French. Speaking, reading and writing in the French language. Three class hours per week.

FR4451/FR4452 Intermediate

French I & II

A two-semester course; three credit hours per semester. For students who have completed two or more years of secondary school French or the equivalent as determined by the department, or who completed FR4401 and FR4402 successfully. A continued study of FR4401 and FR4402 language skills, emphasizing the development of reading ability. Three class hours per week.

FOOD SERVICE MANAGEMENT

FS6601 Introduction to the Food Service Industry

A one-semester course; four credit hours. An orientation to the food service industry; introduction to basic foods, equipment and tools; basic sanitation, safety and personal hygiene; fundamentals of cooking, baking and stewardship. Primarily lectures, demonstrations and field trips. Eight class hours per week.

FS6602 Food Service Operations I

A one-semester course; four credit hours. Preparation and production of quantity foods including refrigeration, handling, storing and sanitation. Dining room procedures and management, purchasing, food costing, inventory control. Primarily a laboratory and food production approach. Eight class hours per week.

FS6611 Food Service Operations II

A one-semester course; four credit hours. Topics include menu planning and pricing, basic meats, fish and poultry, quantity control, merchandising and sales promotion, restaurant layout, equipment maintenance and repair. Primarily lectures and demonstrations. Eight class hours per week.

FS6612 Food Service Operations III

A one-semester course; four credit hours. Specialty foods, gourmet dishes, catering operations, food service operations, advanced quantity foods, preventative maintenance. Primarily a laboratory and food production approach. Eight class hours per week.

FS6625 Food Service Management I

A one-semester course; three credit hours. Management aspects of food service operations. Topics include selecting a location, selecting a clientele, food service equipment, training employees, food cost control and beverage control. Three class hours per week.

GEOGRAPHY

GE9511 Principles of Geography

A one-semester course; three credit hours. A systematic study of the earth's physical, ecological, political and socio-economic patterns. The earth as a planet, its atmosphere, weather, climate and topography. Man's use of its many products and resources, how he exploits and ruins it, how he can maintain and restore it. Three class hours per week.

GE9512 World Regional Geography

A one-semester course; three credit hours. An area-by-area study of the different regions of the world. Each will be examined as to its history, its location, its physical and cultural attributes, and its relation to the part of the world. Three class hours per week.

GERMAN

GM4401/GM4402 Introductory German I and II

A two-semester course; three credit hours per semester. An adventure in German culture and communication. For students who have not completed two years of secondary school German or the equivalent as determined by the department. Audio-lingual emphasis. Introduction to grammatical patterns, speaking, reading and writing. Three class hours per week.

GM4451/GM4452 Intermediate German I and II

A two-semester course; three credit hours per semester. A further exploration of German life and language. For students who have completed two or more years of secondary school German or the equivalent as determined by the department, or who have completed GM4401 and GM4402. A workshop approach to the development of reading, speaking, translation and composition skills. Three class hours per week.

GERONTOLOGY

GR6553 Introduction to Gerontology

A one-semester course; three credit hours. This introduction course in Gerontology will examine human aging from a multidisciplinary and development perspective. The course will focus on the adult years of the life span and it will be assumed that people continue to grow and develop into old age. Social, psychological, and biological processes in the adult years will be discussed. The role of family, occupation, retirement and leisure will be explored. Death and bereavement will be discussed together with such special concerns of the elderly as religion, widowhood, finances, sexuality, and common emotional problems. Three class hours per week.

GR6556 Law, Advocacy and Aging

A one-semester course; three credit hours. This course concentrates on building advocacy skills that will prepare students to be advocates and to advance the legal concerns of people with special needs, including the elderly. The course integrates training in specific legal procedures with an understanding of the legal system and the roles one can play in it. A workshop format will give students opportunities to explore areas of special interest. Included are introduction to the concept of advocacy, techniques and methods of advocacy and self-help, providing advocate services, nursing homes and legal systems that affect property rights and civil rights. Three class hours per week.

GR6561 Gerontology Practicum I

A one-semester course; three credit hours. The practicum is intended to provide the student with an opportunity to meet impaired elders and to put into practice theory learned in the classroom. Placement will be in an institutional setting, preferably a long-term care facility. The student will develop an understanding of the nursing home experience from the point of view of the resident or patient, the family and the facility staff. The class will meet weekly in a seminar format to discuss and work through problems and experiences encountered in the agency setting. Two class hours and eight practicum hours per week.

GR6562 Gerontology Practicum II

A one-semester course; four credit hours. This course is intended to provide the student with an opportunity to meet elders living in community, and to become more aware of the various programs available to them. Placement will be in a Council on Aging or similar agency under the direct supervision of a representative of the agency. The class will meet weekly in a seminar format to discuss problems and experiences encountered in the agency setting. Two class hours and eight practicum hours per week.

GOVERNMENT

GV3300 Introduction to Law

A one-semester course; three credit hours. An historical survey of the nature and philosophy of law as well as the structure, functions and development of legal systems and procedures, with emphasis on Anglo-American practices. Lecture and discussion; three credit hours per week.

GV3301 U. S. Constitutional Law

A one-semester course; three credit hours. Constitutional law is a formal body of rules which consist primarily of decisions and opinions of the U. S. Supreme Court. It is the study of factual background, both historical and contemporary, of major Supreme Court cases to gain an analytical framework by which to understand the standards and tests applied by the Court in reaching decisions. Emphasis is on U. S. Governmental structure and relationships, including relationships with state and local governments. Three class hours per week.

Prerequisites:

GV3312, GV3313, GV3314, (Political Science, Federal Government, or State and Local Government, respectively).

GV3312 Introduction to Political Science

A one-semester course; three credit hours. A descriptive survey of the general principles of politics. Emphasis is given to the development of politics in society, the major political

traditions and ideologies, and comparative governmental systems including institutions, political organization and behavior, and a select range of government policies. Three class hours per week.

GV3313 The Federal Government

A one-semester course; three credit hours. The structure, functions, and procedures of the legislative, judicial, and administrative branches of the Federal Government will be analyzed within the context of the Constitution of the United States. Emphasis will be given to the structure and function of the various branches of government as well as their interrelationships and the effects of other factors on their functions. Three class hours per week.

GV3314 State and Local Government

A one-semester course; three credit hours. The structure, functions, politics, and problems of state and local government will be dealt with in an attempt to become aware of the functions and operations of state and local government. Special emphasis will be given to the identification and definition of problem areas in an attempt to better understand the issues involved as well as to deal with possible solutions. Three class hours per week.

GV3315 Civil Rights and Liberties

A one-semester course; three credit hours. Course deals with the role of individual rights and liberties in American society within the framework of the United States Constitution. The paradox of freedom is essentially the core around which lectures, discussion and research will be conducted. It is advisable to take this course after having completed a course in federal government. Three class hours per week.

HISTORY

HI9901 Western Civilization I

A one-semester course; three credit hours. A survey of the major historical developments and trends in Western Civilization from the Fall of Rome to 1715, with emphasis on the formation and evolution of the social, political,

economic, and cultural institutions of medieval and early modern Europe. Three class hours per week.

HI9902 Western Civilization II

A one-semester course; three credit hours. A survey of the major historical developments and trends in Western Civilization from 1715 to the present, with emphasis on the evolution of social, political, economic, cultural institutions in modern Europe. Three class hours per week.

HI9903 Early Civilization

A one-semester course; three credit hours. A survey of the major historical developments and trends in the rise of the West from their origins in the Ancient Near East through Classical Greece and Rome to the decline and fall of the Roman Empire and the rise and triumph of Christianity. Attention is given to the formation and evolution of social, political, and economic institutions as well as intellectual, religious, and cultural achievements. Three class hours per week.

HI9913 U.S. History I

A one-semester course; three credit hours. A survey of United States history from colonial times through the Civil War. Traces and development of political, social, cultural and economic institutions. Three class hours per week.

HI9914 U.S. History II

A one-semester course; three credit hours. A survey of United States history from reconstruction to the present. Examines political, social, cultural and economic institutions of the U.S. Focuses on the extension of those institutions through imperialism and the challenges to them by the depression and two world wars. Three class hours per week.

HI9916 Recent U.S. History

A one-semester course; three credit hours. Seminar on American history since World War II. Directed readings and emphasis on the major areas of recent national concern such as the "welfare state", foreign affairs, changes in American society, the "urban crisis" in the post-war years, etc. In addition, projects, the intent of which is to depict some perspectives

on contemporary America, are assigned. Three class hours per week.

HI9917 The Family in History

A one-semester course; three credit hours. An analysis of the changes in the structure and functions of the family in Western Europe and America from the 16th century to the present. Special emphasis will be placed upon the impact of industrialization and modernization upon the family and its individual members. Three class hours per week.

HI9955 Minority Groups in America

A one-semester course; three credit hours. Seminar on the contributions and difficulties of religious, racial, ethnic and other minority groups in the pluralistic American society from colonial times to the present. Particular attention will be given to the following groups: Catholic and Jewish, American Indian, Negro and Puerto Rican, and southern European and Oriental. Students will research, write and present individual reports. Three class hours per week.

HI9956 American Foreign Policy

A one-semester course; three credit hours. A survey of United States foreign affairs from revolutionary times to the present. Special emphasis on America's emergence as a world power and her relationship with Europe, Latin American and the Far East. Attention will be paid to the developing roles of the President and the State Department, Congress and international organizations in our foreign policy. Three class hours per week.

HI9958 History of the Soviet Union

A one-semester course; three credit hours. Study of Russia since the overthrow of the Czar in March 1917. Special emphasis is placed on the origin of Russian Communism; the changing nature of Communism under Lenin, Stalin, Krushchev and Breshnev; Soviet foreign policy, especially since World War II. Three class hours per week.

HI9959 History of Latin America

A one-semester course; three credit hours. A survey of the historical development of Latin America from the pre-conquest societies to the present time. Emphasis is placed on the contributions made by the Indian traditions,

the European conquerors, and the fusion of these two elements in the years following independence. The relationship between the United States and Latin America will be given special attention. Three class hours per week.

HI9961 History of Science & Technology

A one-semester course; three credit hours. The study of the historical and philosophical development of science and technology and the practical consequences of discovery on the human activities. The course focuses on the examination of the interplay of science and technology with their social and intellectual impact through the ages. The course may be applied towards a social science or a natural science requirement. Three class hours per week.

HEALTH SERVICES

HS6651 Introduction to Health Services

A one-semester course; three credit hours. A survey course to provide the student with a comprehensive overview of the health care delivery system and its integration with the community. Some of the topics to be covered are orientation to health professions, organizational patterns of health care, financing of health care, proposed state and federal legislation and medico-legal standards. Field trips and guest lecturers will be utilized. Three class hours per week.

HS6652 Fundamentals of the Disease Process

A one-semester course; three credit hours. Topics include causes of disease, cellular injury, inflammatory processes, neoplasms, metabolic disorders, endocrine imbalances, disturbances in blood and body fluids, infectious diseases, physical and chemical injuries, hereditary diseases and congenital defects. A survey of the basic process of disease, types of medication, diagnostic measures and types of treatment will be discussed relating to the following systems: integumentary, musculoskeletal, nervous, cardiovascular, respiratory, gastrointestinal,

genitourinary and organs of special sense (eye and ear). Three class hours per week.

Prerequisite:

MR6605/MR6606 Medical Terminology I and II or permission of the instructor, and BI5519/BI5520 Anatomy & Physiology I and II or permission of the instructor.

HS6700 Emergency Medical Technician

A one-semester course; six credit hours. Specialized training for employees or volunteer members of public or private organizations having a responsibility for delivery of emergency care. The course is conducted by the college in cooperation with the Merrimack Valley Emergency Medical Council, Inc. Training areas covered will be respiration and recussitation; medical and environmental emergencies, including unscheduled childbirth; injuries to the skull, brain, neck and spine; and bleeding, wounds and shock. Students must pass this course in order to be eligible to take the State Registry Exam for Emergency Medical Technicians. Six class hours per week.

HUMANITIES

HU3111 Humanities

A one-semester course; three credit hours. An interdisciplinary course for students in the Discovery Program only. The course shall focus on some of the systems of thought and basic operational procedures applied by natural and social scientists in explaining natural and socio-political phenomena. Three class hours per week.

HU4000 Introduction to Humanities

A one-semester course; three credit hours. Through selective works of literature, film, music, art, religion, and philosophy, this team-taught course focuses on the individual's concept of self (identity, purpose, goals, destiny) and the individual's relationship to community (ethics, values, justice) as explored in our artistic and intellectual heritage. Three class hours per week.

INTERPRETER TRAINING

IN0010 Basic Sign Communication I

A one-half semester course; one credit hour. Designed to present the basic fundamentals of Sign Communication. Visual, gestural communication, basic sign vocabulary, the manual alphabet, and general information related to deafness will be covered. Two class hours per week.

IN0011 Basic Sign Communication II

A one-half semester course; one credit hour. Designed to be a continuation of Basic Sign I. There will be increased focus on Sign vocabulary, fingerspelling, and conversational sign communication. Two class hours per week.

Prerequisite:

Some prior training in sign communication or permission of the coordinator.

IN1001 Sign Language I

A one-semester course; four credit hours. Includes information about the history of sign language and how it exists in society today. Skill focus is on receptive and expressive sign language communication. Laboratory activities and outside assignments are designed to develop competence in sign vocabulary use within specific grammatical construction. Three class hours and three laboratory hours per week.

Prerequisite:

Some prior training in sign communication or permission of the coordinator.

IN1002 Sign Language II

A one-semester course; four credit hours. Involves further exploration of sign language. Laboratory activities and outside assignments focus on developing receptive and expressive ability in the grammar studied, fingerspelling, and competence in signed narratives, directed discussions, and signed deliveries on self-chosen topics. Three class hours and three

laboratory hours per week.

Prerequisite:

Sign Language I or comparable knowledge and skill and permission of the coordinator.

IN1010 Orientation to Deafness

A one-semester course; three credit hours. An introductory course examining various aspects of deafness. Information about the hearing mechanism, hearing disorders, audiological assessment, types of educational settings and rehabilitation recommended. Various professions within the field of deafness, legislation impacting the field of deafness, and current events and activities occurring related to the field of deafness will be presented and discussed. Three class hours per week.

IN1030 Introduction to the Interpreting Field

A one-semester course; three credit hours. Provides general information about the field of interpreting; stressing the importance of a professional attitude toward interpreting, especially as developed through observance of ethical standards. Understanding these aspects of interpreting is enhanced through participation in an observation practicum. Three class hours per week.

Prerequisite:

Basic knowledge about sign communication and permission of the coordinator.

IN1040 Observation Practicum

A one-semester course; one credit hour. Emphasizes the important aspects of professional interpreting (e.g., physical factors, mode of communication employed, professional attitude and approach to assignment, etc.). The field experience will provide opportunity to observe material discussed in the classroom and in actual interpreting situations. One classroom seminar plus three field hours per week.

Prerequisite:

Should be taken in conjunction with Introduction to the Interpreting Field or with coordinator's approval.

IN2003 Sign Language III

A one-semester course; four credit hours.

Designed to refine and build sign language competence in and performance of all grammatical features and sign variations covered in previous courses. Receptive and expressive abilities developed through exposure to selected stylistic, regional, social, ethnic, socially restricted, and age related sign language renditions. Laboratory activities and outside assignments focus on systematically integrating previous course work. Three class hours and three laboratory hours per week.

Prerequisite:

Sign Language I and II or comparable knowledge and skill and permission of the coordinator.

IN2031 Interpreting I

A one-semester course; three credit hours. Designed to develop a broad base of competency and performance skills in transliterating and interpreting. Emphasis is on an in-depth study of the principles of interpreting and their incorporation into specific interpreting situations. Three class hours per week.

Prerequisite:

Introduction to the Interpreting Field or comparable knowledge and permission of the coordinator.

IN2032 Interpreting II

A one-semester course; three credit hours. Involves further emphasis on developing competency and skills in transliterating and interpreting. A variety of learning activities aimed at strengthening interpreting techniques are conducted. Three class hours per week.

Prerequisite:

Introduction to the Interpreting Field, Interpreting I or comparable knowledge and skill and permission of the coordinator.

IN2040 Practicum I

A one-semester course; three credit hours. Emphasizes the means for successful performance in professional interpreting situations. Field experience allows students to put theory into practice by providing opportunities for participation in various interpreting settings. Two class hours and

four field hours per week.

Prerequisite:

Introduction to the Interpreting Field, Observation Practicum and simultaneous enrollment in Interpreting I or coordinator's approval.

IN2041 Practicum II

A one-semester course; three credit hours. Provides advanced students with the opportunity to function in actual interpreting situations with professional advice and support. This supervised work experience is to be the final phase of preparation prior to entry into the field of professional interpreting. One class hour plus eight field hours per week.

Prerequisite:

Introduction to the Interpreting Field, Observation Practicum, Practicum I and simultaneous enrollment in Interpreting II or coordinator's approval

LAW

LW6651 Business Law I

A one-semester course; three credit hours. Introduction to law and its development. The law of contracts and its elements. The law of agency and its application to business. Three class hours per week.

LW6652 Business Law II

A one-semester course; three credit hours. A continuation of LW6651, developing a basic understanding and application of the Uniform Commercial Code involving negotiable instruments, sales, banking, partnerships, corporations, and estates and trusts. Three class hours per week.

Prerequisite:

LW6651

LW6660 Fundamentals of Legal Research Techniques

A one-semester course; three credit hours. The purpose of this course is to introduce the student to the use of the law library and legal materials including law review articles and

legal encyclopedias. The student will receive practical experience in the research and preparation of case briefs and memoranda on legal issues with emphasis on the laws of the Commonwealth of Massachusetts and its court system. Three class hours per week.

LW6661 Litigation

A one-semester course; three credit hours. This course is designed to provide the student with a thorough background in the processing of civil and criminal litigation. Both State and Federal court systems are surveyed. The student studies civil and criminal procedure with emphasis on evidence presentation as required by the various classes of courts. Three class hours per week.

LW6662 Wills, Estates, and Trusts

A one-semester course; three credit hours. This course is designed to introduce the student to a survey of estate administration, the proper court, and probate proceedings, including wills (probate and administration), distribution, descent, fiduciary accounting, and many different kinds of trusts. Three class hours per week.

MATHEMATICS

MA0020 Basic Mathematics

A one-semester course; three credit hours. The course is designed to provide basic mathematics skills required in other courses. Topics include a complete review of arithmetic and an introduction to algebra and geometry, emphasizing practical applications. This course may not be used to satisfy the mathematics requirements for the associate degree in Liberal Arts. Students select either a lecture or independent study option. Either option meets three class hours per week.

MA0030 Basic Algebra

A one-semester course; three credit hours. The course is designed to prepare students for other courses which require basic skills in algebra. Topics include integers, linear and quadratic equations, factoring, exponents and radicals, algebraic fractions, linear systems and word problems. This course may

not be used to satisfy the mathematics requirement for the associate degree in Liberal Arts. Students select either a lecture or independent study option. Either option meets three class hours per week.

Prerequisite:

Basic arithmetic competency

MA0500 Mathematics for Early Childhood Education

A one-semester course; three credit hours. A mixture of teaching methods and content, this course explores various mathematical concepts developed during early childhood. Topics include shape, pattern recognition, sorting, graphing, comparing, measuring, reasoning, counting, number and place value. Emphasis is given to concrete activities and materials which promote or help diagnose understanding of these activities among children. The course may also include a review of personal arithmetic skills and a term project requiring activity with children. This course may not be used to satisfy the math requirement for the Associate Degree in Liberal Arts. Three class hours per week.

MA0501 Developmental Mathematics

A one-semester course; three credit hours. A review for students in the Discovery Program only, of arithmetic and an introduction to algebra, including formula evaluation, linear and quadratic equations, graphs, set theory, etc. This course does not satisfy any of the degree requirements for the associate degree in Liberal Arts. Five class hours per week.

MA0551 Basic Geometry: a Lab Course

A one-semester course; one credit hour. The course is designed as an introduction for students with a limited background in the basic concepts of Geometry. Topics include lines, triangles, circles, areas of plane figures, parallelograms and volumes. All students must attend the individualized lab sessions a minimum of two hours per week. However, the number of extra hours that any particular student spends in the lab is dependent on his beginning skills level.

MA5500 Intermediate Algebra

A one-semester course; three credit hours. The course is designed as a sequel to Basic Algebra or as a first course for students who

have had at least one year of high school algebra. It will prepare students for Quantitative Methods and the Calculus for Business/Social/Life Sciences sequence as well as for the higher-level courses in algebra and trigonometry. Topics include a review of Basic Algebra, fractional equations, radical equations, functions, logarithmic and exponential functions. This course will not satisfy the mathematics requirement for Engineering and Technology programs nor may it be used as an elective in Engineering and Technology. Three class hours per week.

MA5506 Statistics

A one-semester course; three credit hours. Set theory approach to probability. Descriptive statistics. Probability distributions. Sampling inferences from statistics. Hypothesis testing. Linear regression and correlation. Three class hours per week.

Prerequisite:

One year of high school algebra or consent of instructor.

MA5512 Mathematics for Elementary Education

A one-semester course; three credit hours. A mixture of content and teaching methods, this course explores in detail various mathematical concepts which are normally taught in elementary school. Emphasis is given to concrete materials and to applications of mathematics to the real world. The course may also include a review of personal arithmetic skills and a term project requiring activity with children. This course may not be used to satisfy the math requirement for the Associate Degree in Liberal Arts. Three class hours per week.

MA5520 Liberal Arts Mathematics I

A one-semester course; three credit hours. This course is designed to develop an appreciation of mathematics by exploring areas which are of interest to the liberal arts student. The instructor will choose topics from a wide variety of areas such as mathematical logic, set theory, number systems, consumer mathematics, and geometry. The course will also include a review of basic arithmetic skills. Three class hours per week.

MA5525 Liberal Arts Mathematics II

A one-semester course; three credit hours. The objectives are similar to those of Liberal Arts Mathematics I. Liberal Arts Mathematics II is designed to allow the student to explore some of the interesting and useful aspects of mathematics. The instructor will choose topics from a wide variety of areas such as probability, statistics, topology, fourth dimension, philosophy of mathematics and computer programming. Three class hours per week.

MA5613 Mathematics of Finance

A one-semester course; three credit hours. The mathematics used in business transactions. This course may not be used to satisfy the math requirement for the Associate Degree in Liberal Arts. Three class hours per week.

MA5621 College Algebra & Trigonometry

A one-semester course; four credit hours. A complete review of algebra and an introduction to trigonometry are presented with emphasis on preparing students for calculus or for technical mathematics courses. Four class hours per week OR three class hours plus one two-hour problem solving session per week.

Prerequisite:

2 years of high school algebra or MA0030

MA5622 Advanced Algebra & Trigonometry

A one-semester course; four credit hours. For students enrolled in a technology curriculum. Emphasis on the use of algebra, trigonometry and graphics in the solution of technical problems. An introduction to the concepts of rate of change and summation of areas. Four class hours per week OR three class hours plus one two-hour problem solving session per week.

Prerequisite:

MA5621 or equivalent

MA5651 Calculus for Technology

A one-semester course; four credit hours. For students enrolled in a technology curriculum. The course covers limits and differentiation and integration of algebraic exponential,

logarithmic and trig functions, applications to maximum-minimum, related rates, acceleration, area, volume and curve sketching problems. Other topics include integration by parts, substitution methods and use of integral tables. Four class hours per week.

Prerequisite:
MA5622 or equivalent

MA5652 Advanced Calculus for Technology

A one-semester course; three credit hours. The course covers integration by parts, partial fractions and trigonometric substitution. Elements of Boolean Algebra and Statistics are presented. Course also covers power series expansion and elementary differential equations with electronic applications. Three class hours per week.

Prerequisite:
MA5651 or equivalent

MA5667 Introduction to Finite Mathematics

A one-semester course; three credit hours. Primarily for students in business programs, this course includes an introduction to probability, statistics, game theory, linear programming, and computers. Three class hours per week.

MA5673 Quantitative Methods for Business/Social/Life Sciences

A one-semester course; three credit hours. Topics included in this algebra-based course are matrices, linear systems of equations and inequalities, linear programming, probability, decision theory and statistics. Special emphasis is given to applications in business, social and life sciences. Three class hours per week.

Prerequisite:
MA0030 or two years of high school algebra

MA5675 Calculus I for Business/Social/Life Sciences

The first course in a two-semester sequence; three credit hours. Topics included in this algebra-based course are polynomial, exponential and logarithmic functions, limits and differentiation. Special emphasis is given to applications in business, social and life

sciences. Three class hours per week.

Prerequisite:
MA5673 or two years of high school algebra. Some geometry would also be helpful.

MA5676 Calculus II for Business/Social/Life Sciences

The second course in a two-semester sequence; three credit hours. A continuation of MA5675. This course includes techniques of integration, differential equations and multi-variable functions. Three class hours per week.

Prerequisite:
MA5675

MA5685 Differential Equations

A one-semester course; four credit hours. Fundamentals of ordinary linear differential equations. LaPlace Transforms, numerical methods of solutions, etc. Four class hours per week.

Prerequisite:
MA5693

MA5691 Calculus I

A one-semester course; five credit hours. A review of algebraic equations, inequalities, exponential and logarithmic functions, trigonometry including identities and inverses, properties of determinants and matrices, and complex variables. The remainder of the course provides a detailed coverage of analytic Geometry, Functions, Limits, and Continuity; Differential Calculus including the derivative and applications to maxima, minima and curve sketching. The course concludes with the study of differentials and antiderivatives. Five class hours per week. **Prerequisite:**

Two years of high school Algebra and a semester of Trigonometry of MA5621.

MA5692 Calculus II

A one-semester course; four credit hours. The study of integral calculus including applications to area, volume, arc length, surface area. Differentiation and integration of log and exponential functions, trigonometric functions and hyperbolic functions. Special methods of integration including trigonometric substitution, partial fraction

expansion, and integration by parts are covered in detail. This course also includes the study of vectors in the plane and parametric representation and concludes with the study of polar coordinates including the related calculus. Four class hours per week.

Prerequisite:

MA5691 or equivalent

MA5693 Calculus III

A one-semester course; four credit hours. Topics include conic sections, L'Hospital's Rule, improper integrals, sequences, series including convergence and tests therefor, multiple integration. Four class hours per week.

Prerequisite:

MA5692 or equivalent

MANAGEMENT

MG6651 Industrial Management

A one-semester course; three credit hours. Overview of manufacturing operations. All aspects of the production function are discussed: capital investment, assembly-line operation, plant location, product design, time study, purchasing and other topics. Three class hours per week

MG6653 Industrial Purchasing

A one-semester course; three credit hours. The course provides a comprehensive knowledge of modern purchasing practices. It combines analysis of the fundamental purchasing principles with analytical descriptions of the latest developments and techniques. The fundamentals of the buying process are related to the new expanded role of the purchasing department. The student is given the opportunity to test his understanding of what has been covered by the inclusion of case problems drawn from contemporary industry. Three class hours per week.

MG6676 Personnel Management

A one-semester course; three credit hours. Principles and human relations problems involved in the administration of personnel.

Topics include job analysis and specification, recruitment, selection and training, job evaluation, supervision of employees, and salary and wage administration and labor relations. Three class hours per week.

MG6686 Small Business Management

A one-semester course; three credit hours. This course will cover the challenges and objectives of owning a small business. It will identify the types of individuals who ought to consider self-entrepreneurship as well as what type of business one should enter. Full planning and executing of the start-up of a small business and/or entering an existing business. Planning, organizing, directing and controlling the activities of the firm. Three class hours per week.

MG6688 Travel and Tourism Management

A one-semester course; three credit hours. An introduction to travel agency operations and practices. Emphasis on reservations procedures - air, cruise, hotel and car. Writing tickets and setting up an itinerary. Documents needed for travel in foreign ports - passports, health certificates, tourist cards. Three class hours per week.

MENTAL HEALTH

MH2001 Management of Community Residence: Health/Safety/Nutrition

A one-semester course; three credit hours. An in-depth analysis of how best to provide for the medical, nutritional and safety needs of individuals in community residence. Topics such as activity of daily living skills; accident prevention; use of emergency first aid techniques; food preparation, purchasing and menu planning as it relates to normal nutrition; the role of the house manager in detecting problems or illness; working with community resources in health problems and handling chronic health problems of residents. Three class hours per week.

Prerequisite:

Enrollment in Mental Health Technology or Community Residence Manager Program.

MH2111 Introduction to Mental Health

A one-semester course; three credit hours. An introduction to the history of psychiatry, current trends in mental health and mental retardation, the mental health team, prevention of mental illness, and the role of the mental health technician. Consideration will be given to the diagnostic evaluation, establishing contact with patients and families and techniques of interviewing. Three class hours per week.

MH2133 Observation & Recording of Mental Health Programs

A one-semester course; one credit hour. A preliminary investigation of programs in mental health, in varied institutional settings. Defined areas of mental health and mental retardation will be observed and recorded. These observations will be discussed in seminars held throughout the semester. Four practicum hours per week.

Prerequisite:

Enrollment in Mental Health Technology or Community Residence Manager Program.

MH2134 Mental Health Practicum I

A one-semester course; four credit hours. A rotating practicum in selected community psychiatric and mental retardation facilities, social agencies and school settings. Under supervision, students will give services to patients/clients individually or in groups and have opportunity to follow up patients/clients in the home and community. Twelve practicum hours and one class hour per week.

Prerequisites:

MH2111 and MH2133

MH2143 Mental Health Practicum II

A one-semester course; four credit hours. A continuation of Practicum I but with a greater involvement in patient care and services. Twelve practicum hours and one class hour per week.

Prerequisite: **MH2134**

MH2144 Mental Health Practicum III

A one-semester course; four credit hours. A continuation of Practicum II with a more

intensive involvement in mental health/human service facilities. Twelve practicum hours and one class hour per week.

Prerequisite: **MH2143**

MH2145 Mental Health Practicum in Residential Services I

A one-semester course; four credit hours. A practicum in selected community residences for the mentally ill, emotionally disturbed and mentally retarded. Under supervision, students will give direct services to residents individually or in groups and assist residents in money management, house management and household maintenance. One class hour and twelve practicum hours per week.

Prerequisite:

Enrollment in Mental Health Technology or Community Residence Manager Program.

MH2146 Mental Health Practicum in Residential Services II

A one-semester course; four credit hours. A continuation of Practicum I but with a greater involvement in activities of a house manager. One class hour and twelve practicum hours per week.

Prerequisite: **MH2145**

MH2147 Group Dynamics

A one-semester course; three credit hours. Course aims to help students to realize their potential for growth more fully, and increase their ability to work effectively with others in a variety of situations. Students will learn how groups work and how individuals function within groups by forming a group for this purpose. Phases of group development, communication and group performance are experienced and discussed. Three class hours per week.

Prerequisite:

Enrollment in Mental Health Technology or Community Residence Manager Program.

MH2155 Modalities of Treatment

A one-semester course; three credit hours. The management of special problems with adults and children will become the central focus of this course. The course will explore

various systems of personality and the application of these systems to practice; individual therapy; group therapy; family therapy; behavior modification and chemotherapy. Special emphasis will be given to the role of the mental health middle-level professional in treatment. Three class hours per week.

Prerequisites:
MH2111 and MH2133

MH2156 Behavior Management & Techniques

A one-semester course; three credit hours. This course seeks to acquaint students with the application of principles of instrumental learning theory to the problems of human behavior. Focus will be on an approach to patient management problems and practical techniques for helping patients improve functioning in the community. Content will include the analysis of behavior, reinforcement of behavior, point or token system, shaping process, ethical issues and future trends in behavior therapy. Three class hours per week.

Prerequisite:
Enrollment in Mental Health Technology or Community Residence Manager Program.

MH2166 Seminar in Mental Health

A one-semester course; three credit hours. This seminar course allows for group discussion of theoretical and practical approaches to patient-client care. Analysis of practicum experiences; preparation for service in various agencies; and graduate's identity as a mental health middle-level professional. Three class hours per week.

Prerequisite:
Enrollment in Mental Health Technology or Community Residence Manager Program.

MH2170 Alcohol and Drug Abuse A one-semester course; three credit hours. This course is designed to generate an understanding of alcohol use, drug use, misuse, addiction and personal and social consequences. There will be discussion of community approaches to drug abuse, state and federal legislation, etiology,

symptomology and current treatment modalities. The primary goal of this course is to provide future and/or present personnel in the field with basic information needed to provide services to this type of client and family. Three class hours per week.

MARKETING

MK6678 Principles of Marketing

A one-semester course; three credit hours. Introduction to marketing with emphasis placed on the firm as a marketing system which must survive in its external environment of markets, resources and the general society. The concepts of market segmentation, corporate objectives, marketing strategies and marketing information systems will be stressed. Three class hours per week.

MK6679 Advertising

A one-semester course; three credit hours. Analysis of buying motives and the development of various advertising appeals. Planning, budgeting and testing of phases of the program and the several advertising media. Three class hours per week.

MK6680 Retailing

A one-semester course; three credit hours. Basic elements of retail merchandising. Types and organization of retail outlets. Buying, pricing, dollar and unit stock control, sales promotion, and expense budgets. Three class hours per week.

MK6681 Salesmanship

A one-semester course; three credit hours. Fundamentals of salesmanship by studying the behavioral aspects of the persuasion process; a systematic approach to selling which the student can use to develop the techniques which fit his own personality and particular situation. Three class hours per week.

MK6682 Case Studies in Marketing

A one-semester course; three credit hours. Students will learn to analyze, prepare, present and discuss marketing case studies. Case problems will be presented to students

to enable them to understand and solve problems involving market segmentation, market research, pricing, product strategy, promotion, physical distribution and channel management. Three class hours per week.

Prerequisite:

MR6678 or equivalent with permission of instructor.

MEDICAL RECORD TECHNOLOGY

MR6601 Medical Record Science I

A one-semester course; three credit hours. The beginning of a series of courses designed to instruct students in the theory and principles of Medical Record Technology. Subjects covered are History of Medical Records, orientation to medical record field; admitting areas; Medical Record forms and content; Medical Record formats (e.g., Problem-Oriented Medical Record), Numbering and Filing Systems. Two class hours and two lab hours per week.

MR6602 Medical Record Science II

A one-semester course; three credit hours. Study of basic principles of compiling statistics for hospitals and other medical facilities. Topics include the daily census; analysis of hospital services; monthly, annual and special reports, methods for recording vital statistics, basic principles in the classification of diseases and operations according to the International Classification of Diseases; methods of maintaining the physicians' index; birth, death and emergency registers, and the techniques of assisting medical staff in research projects. Two class hours and two laboratory hours per week.

Prerequisite:

MR6601

MR6605 Medical Terminology I

A one-semester course; three credit hours. A study of basic prefixes, suffixes, roots, abbreviations, symptomatic, disease, operative, and drug terminology. Terms will be taught by anatomical system with lectures on the anatomy of the system included. The following systems are covered:

Integumentary, Musculo-Skeletal, Cardiovascular, Blood and Blood Forming organs. Three class hours per week.

MR6606 Medical Terminology II

A one semester course; three credit hours. A study of prefixes, suffixes, roots, abbreviations, symptomatic, disease, and operative terminology of the following systems are covered: Digestive, Respiratory, Neurological, Uro-Genital, Maternal and Antenatal, Endocrine, Organs of Special Sense, and Systemic Diseases. Also selected laboratory terms and selected medical terms relating to psychiatry are covered. Three class hours per week.

Prerequisite:

MR6605

MR6651 Medical Record Science III

A one-semester course; three credit hours. Course includes the study of principles of law as related to patient care and medical records; state and federal legislation regulating health care facilities or the delivery of health care services; study of medical staff structure within the hospital and medical staff committees; study of health accrediting agencies; Medicare, Medicaid, quality assurance programs, P.S.R.O. Two class hours and one two-hour laboratory period per week.

Prerequisite:

MR6601, MR6602

MR6653 Medical Record Science IV

A one-semester course; two credit hours. Study of health information systems and accrediting agency standards in the long term and ambulatory care setting; course is integrated with Directed Practice II (MR6668). Two class hours per week. **Must be taken with MR6668.**

MR6661 Medical Record Transcription I

A one-semester course; three credit hours. Introduction to the role of the transcriptionist in health record services. Covering the operation and care of typewriting and transcribing equipment; techniques of transcription; and transcribing of sample medical communications, such as basic history and physical examinations, reports of

specialty departments (e.g. x-ray, pathology, EKG's, etc.). Also covered, the typing of various medical forms, admission records, group hospital insurance forms, doctor's service reports, patient transfer forms, etc.; the use of medical references with cross referencing; the proper use of spelling and punctuation for both English and medical terminology. Quality of transcription emphasized rather than quantity. Four class hours per week.

Prerequisites:

MR6605, MR6606. Typing 45 wpm with 5 errors or less, or enrollment in Medical Transcription Certificate Program.

MR6662 Medical Record Transcription II

A one-semester course; three credit hours. Development of medical transcription at a productive speed with accuracy. Units of history and physical examinations, surgical reports, and discharge summaries covering the areas of cardiology, obstetrics-gynecology, orthopedics, respiratory, gastroenterology, plastic surgery, urology, neurology, psychiatry, otorhinolaryngology, ophthalmology, and endocrinology/oncology. Rate of production is measured. Also, medical timed writings given and a review of English grammar, usage, and style. Four class hours per week.

Prerequisite:
MR6661

MR6667 Directed Practice I (Medical Record)

A one-semester course; four credit hours. Supervised practice in the medical record department of a community hospital affiliated with the Medical Record Program. Students participate in all phases of medical record systems and become fully acquainted with the required medical record procedures of a local hospital. Comparison of systems is provided by class field trips to other cooperating hospitals and reports prepared by students. 16 hours per week. (Two hospital working days per week—own transportation necessary.)

Prerequisites:

MR6601, MR6602, MR6605, MR6606

MR6668 Directed Practice II (Medical Record)

A one-semester course; three credit hours. Supervised practice in health information systems in extended care facilities, psychiatric facilities, ambulatory care facilities and in related health care industries; workshop, lecture, discussion group sessions on various aspects of health information systems in various types of health care facilities. 10 hours per week. **Students must provide their own transportation.**

Prerequisite:

MR6667 must be taken concurrently with MR6653

MUSIC

MU7090 Music Reading, Notation and Ear Training

A one-semester course; three credit hours. Music reading is introduced through the practical experiences of tapping, singing and playing. Notation includes study of rock, folk, jazz and classical. Ear training is accomplished by analytical listening to all major styles of music. The recognition of clefs, pitches, intervals, scales, chords, rhythms and metric patterns is thus developed. Three class hours per week.

MU7091 Introduction to Music

A one-semester course; three credit hours. Music of European, American and non-Western cultures from classical to rock will be studied. Exposure to various styles and forms of music, expansion of listening perception and knowledge of the materials and sociological aspects of music. Three class hours per week.

MU7092 History of Jazz

A one-semester course; three credit hours. A study of jazz - its definition, musical elements, history, performers, composers, styles and forms. Emphasis will be on understanding, appreciation and enjoyment of jazz through listening, explanation and insight into its cultural background. Three class hours per week.

MU7093 Twentieth Century Music

A one-semester course; three credit hours. Trends in contemporary music beginning with Debussy and including electronic and other avant-garde music, music for theatre and film, and related social and political trends of this century. Three class hours per week.

Recommended Prerequisite:
MU7091

MU7094 Jazz and Rock Theory

A one-semester course; three credit hours. A course in learning to improvise music and read rhythms and chords in the jazz and rock idioms. Study of pentatonic, blues, modal and major-minor scales, and related chords and chord progressions. Exercises in counting and tapping triplets, dotted and syncopated rhythms. Three class hours per week.

Prerequisites:

**MU7090 or equivalent knowledge/
experience.**

MU7097 Performance Ensemble I

A one-semester course; three credit hours. Ensembles of all sizes in rock, folk, jazz and classical music organized for the purpose of gaining experience in preparing and performing music before audiences. Video tape and reel-to-reel recordings of class performances are made for study purposes. Students enrolling must be capable of performing on a musical instrument or as a singer. One class and three laboratory hours per week.

MU7098 Performance Ensemble II

A one-semester course; three credit hours. A continuation of MU7097 (see description of Performance Ensemble I) with the requirement of further progress and musical development. One class and four laboratory hours per week.

Prerequisite:
MU7097

MU7100 Harmony I

A one-semester course; three credit hours. An intensive study of key signatures, modes, intervals and triads leading to the basic principles involved in part writing, as exemplified by the music of the Common Practice period. Systematic investigation of the problems involving the use of dissonance

(non-harmonic tones) within a basic four-part format. Correlated outside work. Three class hours per week.

Prerequisite:

**MU7090, or the ability to read music
and knowledge of the major scales.**

MU7101 Chorus I

A one-semester course; two credit hours. The Northern Essex Community College Chorus performs, in concert, music from pop to classical. Experience in singing, vocal-part learning and performance is developed. Auditions will take place for voice placement. One hour sectional and two hours chorus rehearsal per week.

Recommended Corequisite:
MU7090

MU7102 Chorus II

A one-semester course; two credit hours. The Northern Essex Community College Chorus performs, in concert, music from pop to classical. Experience in singing, vocal-part learning and performance is developed. Auditions will take place for voice placement. One hour sectional and two hours chorus rehearsals per week.

Prerequisite:

**Chorus I, MU7101; recommended
corequisite: MU7090.**

NURSING

NS6500 Basic Nursing Care

A one-semester course; two credit hours. This course is designed to meet the needs of non-nursing Allied Health students. An introduction to assessment skills is included to prepare the student to recognize and meet the basic nursing needs of patients. Specific content of the course is designed to assist students to plan strategies and to make appropriate decisions in the clinical setting. Two class hours per week.

NS6601 Nursing I

Introduction to Nursing; eight credit hours. The course is designed to introduce the student to the role of the nurse in the health care delivery system. The course is organized around the concept of homeostasis which

views man as striving to maintain a dynamic equilibrium. Mechanisms by which the individual maintains a homeostatic balance are presented. This homeostatic framework incorporates adaptations in nutrition, oxygen regulation, sensation-mobility and neural-hormonal regulation. The student is introduced to the nursing process and is afforded the opportunity to apply basic nursing skills in the delivery of safe and effective care to clients.

DAY DIVISION HOURS

Class - 4 hours a week per semester
Clinical - 12 hours a week per semester

EVENING DIVISION HOURS

Class - 2 hours a week per semester
Clinical - 6 hours a week per semester

Prerequisites:

See appropriate Curriculum for proper sequencing of courses

NS6602 Nursing II

Maternal and Child Health; eight credit hours. This course continues to utilize the homeostatic framework as a basis for study of the family throughout the child-bearing and child-rearing cycle. The deviations of homeostasis are studied specifically as they relate to obstetrics, gynecology and pediatric health problems. The concepts of nutrition, pharmacology, communication skills, preventive, therapeutic, and rehabilitative nursing are emphasized. This course provides opportunity to develop health teaching skills within a family centered framework.

DAY DIVISION HOURS

Class - 4 hours a week per semester
Clinical - 12 hours a week per semester

EVENING DIVISION HOURS

Class - 2 hours a week per semester
Clinical - 6 hours a week per semester

Prerequisites:

See appropriate Curriculum for proper sequencing of courses

NS6651 Nursing III

Mental and Physical Illness I; eight credit hours. This course introduces the principles and practice of comprehensive nursing care to persons in relationship to normal and deviant homeostatic mechanisms. Stress is placed on the promotion of mental health and prevention of mental illness. Principles of

therapeutic nutrition, pharmacology, the preventive and restorative aspects of rehabilitation, communication skills and interpersonal relationships are emphasized.

DAY DIVISION HOURS

Class - 4 hours a week per semester
Clinical - 12 hours a week per semester

EVENING DIVISION HOURS

Class - 2 hours a week per semester
Clinical - 6 hours a week per semester

Prerequisites:

See appropriate Curriculum for proper sequencing of courses

NS6652 Nursing IV

Mental and Physical Illness II; ten credit hours. This course emphasizes the integration of all areas of nursing practice in applying comprehensive nursing care to persons in relationship to normal and deviant homeostatic mechanisms. Stress is placed on the biophysical pathology in relation to the nursing care needs and emotional reactions of the individual person. Principles of therapeutic nutrition, pharmacology, the preventative and restorative aspects of rehabilitation, communication skills and interpersonal relationships are continued in depth.

DAY DIVISION HOURS

Class - 5 hours a week per semester
Clinical - 15 hours a week per semester

EVENING DIVISION HOURS

Class - 2.5 hours a week per semester
Clinical - 7.5 hours a week per semester

Prerequisites:

See appropriate Curriculum for proper sequencing of courses

NS6682 Contemporary Issues & Practices in Nursing

A one-semester course; three credit hours. Contemporary Nursing Issues & Practices is planned and implemented by the students under the direction of the course instructor. Students explore social, ethical, and professional issues affecting Nurses which, in turn, influence the practice of the individual nurse. Nursing care practices are explored within the homeostatic conceptual framework with emphasis placed on refinement and utilization of the nursing process. Students are responsible for the presentation of their

chosen topic, the method of presentation, the selection of guest speakers and for a typewritten report of the total project. College faculty are utilized as resource persons and give guidance and direction as needed and requested. Three class hours per week.

Prerequisite:

See appropriate Curriculum for proper sequencing of courses

PHYSICAL/OUTDOOR EDUCATION & LEISURE STUDIES

PE1002 Archery

A half-semester course; one credit hour. Basic skills and techniques, cost, care and maintenance of equipment. Interclass competitive shooting. Three class hours per week.

PE1004 Badminton

A half-semester course; one credit hour. Basic strokes (grip, stance, form), rules of the game, care and selection of equipment. Class tournament arranged. Three class hours per week.

PE1006 Bowling

A half-semester course; one credit hour. The fundamentals of candlepin bowling. Class will be held off campus. Arrangements for transportation must be made for by the students. Students pay a nominal charge for each game bowled. Three class hours per week.

PE1008 Canoeing

A half-semester course; one credit hour. The course follows the American Red Cross Small Craft certificate program for canoeing. Some of the skills include: paddling strokes, canoe rescue, artificial respiration and a trip. Students successfully completing the course will receive the American Red Cross Canoeing Certificate. All canoeing equipment is provided.

PE1011 Fly Fishing & Fly Tying

A one-semester course; two credit hours. Cost, selection and care of various types of fishing equipment. Fundamental skills and

techniques. Students will be taken off campus for practical application of skills acquired. Three class hours per week.

PE1014 Golf

A half-semester course; one credit hour. The fundamentals of golf; grip, stance, rules, swing and etiquette. Practice will be given with long and short irons, drives and putters. Three class hours per week.

PE1015 Golf - Intermediate

A half-semester course; one credit hour. Designed for students seeking further skill and knowledge beyond the beginning level. The majority of instruction will be held on the golf course. Three class hours per week.

PE1017 Karate

A one-semester course; two credit hours. A progressive program of instruction. Designed for the student seeking skill, knowledge and a philosophy of this oriental sport. There is no contact, but a series of precise exercises leading to proficiency of technique. Three class hours per week.

PE1018 Modern Dance I

A half-semester course; one credit hour. A study of the fundamentals of modern dance techniques and personalities contributing to the development of Dance in America. Open to both male and female students. Emphasis is on cultivating a sound basic technique as well as self-expression through movement. Three class hours per week.

PE1020 Self-Defense

A half-semester course; one credit hour. Instruction and practice in the art of self-defense for men and women. Basic stance, kicks, punches, defenses, specific moves are demonstrated by the students. **(Not a belt degree program)**. Three class hours per week.

PE1021 Senior Life Saving

A one-semester course; two credit hours. A certified course in Senior Life Saving skills. When requirements are met, a standard Red Cross senior life saving certificate will be issued. Three class hours per week.

PE1022 Scuba I

A one-semester course; one credit hour.

General course. Emphasis on skin diving and related activities: marine life, water environment, etc. Basic concepts of scuba diving outlined. Waterwork includes swimming skills, use of mask, fins and snorkel, water games. Does not lead to certification or provide familiarity with scuba equipment. See Scuba II. Three class hours per week.

PE1023 Scuba II

A one-semester course; one credit hour. Basic course leading to certification. Text required. Diving physics, dive planning and preparation, diving diseases, equipment and first aid covered. Water skills stressed. Three open water dives required. Three class hours per week.

Prerequisite:

Satisfactory completion of PE1022 or person capable of completing a written exam and water test to the satisfaction of the instructor.

PE1026 Swimming

A half-semester course; one credit hour. Fundamentals of elementary and intermediate swimming and diving with emphasis on individual achievement and water safety. Three class hours per week.

PE1027 Tennis I

A half-semester course; one credit hour. Fundamentals including grip, forehand and backhand drives, serve, etc., plus rules of the game, strategy, care and selection of equipment. Three class hours per week.

PE1028 Tennis II

A half-semester course; one credit hour. Instruction and practice in advanced techniques and skills to attain proficiency. Students must meet minimum requirements during the first week of class in order to remain in the course. Three class hours per week.

PE1029 Volleyball

A half-semester course; one credit hour. Basic knowledge of the rules, regulations, techniques, fundamentals, skills and their application in game situations. Three class hours per week.

PE1030 Water Safety Instruction

A one-semester course; two credit hours.

Methods of teaching swimming and life saving technique. Successful completion results in certification (WSI). Classes are held off campus. Three class hours per week.

Prerequisite:

PE1021 or equivalent

PE1031 Weight Training

A half-semester course; one credit hour. Basic principles and skills of weight training. Emphasis on the cardiovascular and flexibility activities. Three class hours per week.

PE1032 Wrestling

A half-semester course; one credit hour. Basic skills, techniques and strategies of wrestling. Designed to improve both muscular and cardiovascular endurance, as well as improve ability in various wrestling techniques. Three class hours per week.

PE1034 Winter Mountaineering

A half-semester course; one credit hour. A course designed to acquaint the student with the recreational and fitness benefits of camping and hiking during the winter months. Course includes description of cold weather clothing and equipment, orienteering, foods, snowshoeing or cross-country skiing, winter first aid, day hikes or overnight camp-outs, and an underlying emphasis on conservation and preservation of land, water and wildlife. Three class hours per week.

PE1035 Trampolining I

A half-semester course; one credit hour. An introduction to the basic skills including bounces, drops (seat, front, back), simple turns and twists, including the turntable and swivel hips. Safety factors are stressed. Three class hours per week.

PE1036 Trampolining II

A half-semester course; one credit hour. An advanced course including aerial stunts, along with proper spotting techniques and other safety factors. Three class hours per week.

Prerequisite:

PE1035 or equivalent

PE1038 Cross-Country Skiing

A half-semester course; one credit hour. This course will include the skills necessary for

skiing uphill, downhill, striding on flat terrain, poling and different types of skiing equipment. Class time will be spent outdoors skiing and practicing skills. All skiing equipment is provided. Three class hours per week.

PE1039 Rock Climbing

A half-semester course; one credit hour. This fundamental course will include basic techniques: belaying, rapelling, ascents, descents, the proper use of personal climbing equipment and safety considerations. Most classes will be held outdoors. All climbing equipment is provided. Three class hours per week.

PE1041 Yoga

A one-semester course; two credit hours. This is a course in self-realization covering Hatha exercises and breathing, nutrition, relaxing, concentration and Eastern philosophy. Classes will consist of practice and discussion aimed at improving life through the wisdom of this timeless discipline. Three class hours per week.

PE1042 Jogging

A half-semester course; one credit hour. This course will elaborate on one of the most simple but effective forms of conditioning. Class time will cover how to warm up, train and pace yourself so as to enjoy the pleasant overall exhilaration this activity promotes. Three class hours per week.

PE1043 Ethnic Dancing

A half-semester course; one credit hour. Designed to acquaint a person with the expressive movement patterns of various cultures throughout the world as well as our own. Emphasis will be on popular dances, disco, Greek, and other Ethnic dances. Three class hours per week.

PE1044 Cycling

A half-semester course; one credit hour. This course will cover body conditioning, care of the bicycle and knowledge necessary to enjoy this fast-growing sport. The major assignment will be a week-end bicycle trip with overnight stays at an American Youth Hostel on Martha's Vineyard or other scenic location.

Three class hours per week.

PE1046 Judo

A half-semester course; one credit hour. This course is an introduction to the sport, its history, safety considerations, and the basic skills including falling, throwing, mat grappling, kicks, blocks and armlock techniques. Three class hours per week.

PE1047 Sailing

A half-semester course; one credit hour. An introduction to sailing, including basic maneuvers and handling, nomenclature, equipment, weather and water consideration, and safety rules and regulations. Three class hours per week.

PE1049 Modern Dance II

A half-semester course; one credit hour. Utilizing basic dance skills from Modern Dance I, the student learns advanced techniques and skills to attain proficiency; while the emphasis is on sound technique, time is also reserved for creative activity. Three class hours per week.

PE1050 Racquetball

A half-semester course; one credit hour. An introductory course to racquetball. Includes the basic strokes, footwork, rules, regulations and strategy. Three class hours per week. All classes are held at Cedardale Racquetball facility in Haverhill, Mass.

PE1051 Paddle Tennis /Platform Tennis

A half-semester course; one credit hour. An introduction to one of the fastest growing sports in America. A year-round game developed to take the place of Tennis in the off season, but has become a game of its own for all seasons. Includes the basic strokes, footwork, rules, regulations and strategy. Three class hours per week.

PE1052 Mountaineering

A half-semester course; one credit hour. A course designed to introduce the student to selection and maintenance of equipment first aid, use of map and compass, fire-building, menu planning, cooking on backpacking stoves, and a week-end backpacking trip to experience all the different skills learned. All backpacking equipment is provided. Three

class hours per week.

PE1055 Saltwater Recreational Fishing

A half-semester course; one credit hour. This course is designed for the novice saltwater fisherman and/or boatowner who is interested in developing his or her skills and increasing knowledge of methods and strategies of angling for the many varieties of saltwater fish off the Massachusetts coast. Three class hours per week.

PE1056 Cardiopulmonary Resuscitation (C.P.R.) and the Cardiovascular System

A fifteen hour; one credit course. This course covers the physiology of the cardiovascular system; the prevention, symptoms and treatment of heart attack; as well as practice in one and two-rescuer C.P.R., infant C.P.R., and procedures for obstructed airway. Satisfactory completion of the American Heart Association Exam and practical tests will qualify the student to receive a card certifying him or her in basic life support. Three class hours per week.

PE1057 Ballet I

A one-semester course; one credit hour. This is a beginning course which will give the student a basic foundation in classical ballet. Major emphasis will be on the 5 positions of feet and arms and the 8 body positions. Basic technique will be covered with emphasis on barre work and some center work. Basic appreciation of this art form will also be highlighted. One and one-half class hours per week.

PE1058 Ballet II

A one-semester course; one credit hour. This course will review basic ballet techniques and progress to refinement of technique through more advanced barre work, center work, and across-the-floor combinations. One and one-half class hours per week.

PE2001 Introduction to Physical Education

A one-semester course; three credit hours. A career-oriented course designed to introduce new students to the profession of Physical Education, and to make them aware of career alternatives within the field of physical education and to familiarize them with the

requirements and professional preparation. Three class hours per week.

PE2002 First Aid and Safety

A one-semester course; three credit hours. Prepares the student to deal with most types of medical emergencies. Classes include simulated disaster, ambulance tour, practical skills, knowledge of the Advanced Red Cross First Aid book, and instruction in cardiopulmonary resuscitation. When requirements are met, a standard first aid card and CPR card in basic life support are given. Three class hours per week.

PE2004 Introduction to Outdoor Education

A one-semester course; three credit hours. A career oriented course, experienced through an interdisciplinary approach, individually and collectively, involving group discussions, field trips and outdoor skills experiences (cross-country skiing, canoeing, map and compass, etc.). Three basic areas of concentration are outdoor leadership, conservation and environmental education. Three class hours per week.

PE2007 Camp Counseling and Environment Interpretation

A one-semester course; three credit hours. An introductory course in camp counseling and environment interpretation designed to give the prospective camp counselor a background and insight into the workings of camp life and an understanding of the youths he/she will be working with and a knowledge of the resources available. There will be opportunities for practical application of camping skills as well as experiences in out-of-doors activities such as cookouts, sleep-outs and week-end camping trips. Three class hours per week.

PE2015 Contemporary Health Issues

A one-semester course; three credit hours. Designed to provide the student with an understanding of contemporary health problems of society. Students will examine topics such as health as a quality of life, preventative medicine, health insurance, concepts of death and dying, and decision-making that affects health and effective living. Three class hours per week.

PE2016 Foundations of Health and Fitness

A one-semester course; two credit hours. This course is designed as an individualized health improvement and maintenance program. The course will focus on individual health and fitness profiles, graded and controlled exercise and monitoring and recording of certain body functions. The objective of the course is to merge exercise, nutrition and stress management into one course and help change a person's life style for a better quality of life. Two class yours per week.

PE2017 Leisure and Aging

A one-semester course; two credit hours. This course provides the student with an overview of the problems and pleasures that leisure presents to our aging population. The course will emphasize activities, and exercise programs for the elderly with an understanding of the physiological, and psychological and sociological aspects of aging. Students will also develop a leisure framework for all ages and a philosophy of aging for a better quality of life. Two class hours per week.

PE2018 Intramural Planning and Administration

A one-semester course; three credit hours. Specifically designed for students who plan to transfer in Recreation and Physical Education Programs or anyone who plans to work at camps, playgrounds or recreation departments. Course will cover all aspects of planning, management and evaluation of intramurals in both the school and agency environments. Students would be required to participate in an on-campus practicum. Two class hours and four practicum hours per week.

PE2050 Experiences in Self-Awareness

A one-semester course; three credit hours. Combines lectures, physical activities, and group exercises designed to give students a broad range of self-enriching experiences to aid their growth and awaken them to their individual potentialities. Emphasis is on acquainting students with possibilities for

complete development, devising a workable life plan, getting more in touch with bodies, and asserting control over mental, physical and environmental processes. Three class hours per week.

PE2293 Innovative Movement Experiences:

Childhood to Adult

A one-semester course; two credit hours. Study of and participation in activities, games and creative exercises emphasizing increased motor ability, group interaction and body awareness in "children" of all ages. Designed for teachers, recreation leaders and Mental Health occupations. Two class hours per week.

PE2295 Slimnastics

A one-semester course; two credit hours. An exercise and activity class emphasizing weight control through individualized diet, increased muscle tone and total body well-being. Participation will include small group discussion and progress will be charted. Two class hours per week.

PHILOSOPHY

PH0001 Early & Medieval Philosophy

A one-semester course; three credit hours. An ADVENTURE in the history of ideas. A study of the rise and evolution of philosophy from the early Greeks to the Renaissance. Emphasis on Plato, Aristotle, Augustine and Aquinas. Three class hours per week.

PH0002 Modern Philosophy

A one-semester course; three credit hours. A further ADVENTURE in the history of ideas. A study of the progress of philosophy from the Renaissance to the twentieth century. Special emphasis on Descartes, Locke, Hegel, Nietzsche, Marx and Sarte. Three class hours per week.

PH0201 Bioethics

A one-semester course; three credit hours. An examination of the interrelationships between philosophy and problems arising from advances in modern biology, including the ethical implications of the problems of

population control, resource allocation and biomedicine. This is a discussion course for those students who enjoy dealing with ideas. There are no prerequisites, but a general background in the sciences or philosophy may make the ideas presented in the course more meaningful. This course might not be transferable as a science requirement. Three class hours per week.

PH1101 Introduction to Philosophy

A one-semester course; three credit hours. The aims, nature and problems of philosophy, with emphasis upon theory of knowledge, metaphysics, ethics and philosophy of religion. Three class hours per week.

PH1102 Problems of Philosophy

A one-semester course; three credit hours. A critical analysis of the philosophic issues concerning the nature of man, freedom and determinism, esthetics, social and political philosophy and philosophy of history. Three class hours per week. **Not a sequential course.**

PH1141 Ethics

A one-semester course; three credit hours. A study of representative ethical systems and how they deal with moral issues. Attention will be given to the meanings of basic terms and to the application of ethics to major personal and social problems of our times such as those in law, medicine, international issues, sexuality and lifestyle. Three class hours per week.

PH1150 Practical Logic

A one-semester course; three credit hours. This course is designed to introduce the student to the basics of reasoning, argumentation, and critical thinking. Included are criteria of sound reasoning, rational assessment of arguments, common fallacies, and basic informal logic. Three class hours per week.

PH1151 Introduction to Logic

A one-semester course; three credit hours. Course will inquire into the nature of critical thinking. Such topics as the functions of language, experimental truth and logical validity, the structure of deductive arguments, and basic inductive methods will be considered. Three class hours per week.

PHYSICS

PI5501 General Physics I

A one-semester course; four credit hours. This course is intended for science majors. The course will examine the composition and resolution of vectors, equilibrium of a particle, moments of a force, rectilinear motion, Newton's second law, gravitation, motion, work, energy, impulse and momentum, rotation and elasticity. Plane geometry, trigonometry and algebra will be used. Three class hours and three laboratory hours per week.

Prerequisite:

One year of college mathematics

PI5502 General Physics II

A one-semester course; four credit hours. This course is intended for science majors. The course will examine heat, light, electricity and magnetism, sound, and atomic physics. Plane geometry, trigonometry and algebra will be used. Three class hours and three laboratory hours per week.

Prerequisite:

PI5501

PI5503 Introductory Physics I

A one-semester course; four credit hours. This course is intended for non-science majors. It is designed to cover concepts in physics which are necessary for a basic understanding of our Twentieth Century physical world. The treatment will be largely non-mathematical and will cover topics such as motion, energy, gravitation, and the structure of matter. Three class hours and two laboratory hours per week.

PI5504 Introductory Physics II

A one-semester course; four credit hours. A continuation of PI5503 with the same objectives, but focusses upon other interesting topics such as heat, light and radiation. Three class hours and two laboratory hours per week.

Prerequisite:

PI5503

PI5621 Applied Physics I

A one-semester course; four credit hours. Fundamentals of mechanical motion using algebra and graphical solutions. Principles of heat transfer, wave motion, vibration and sound. Basic fluid mechanics. Three class hours and three laboratory hours per week.

Prerequisite:

MA5621 or equivalent

PI5622 Applied Physics II

A one-semester course; four credit hours. Fundamentals of electricity, magnetism, and electrochemical effects. Electromagnetic induction and magnetic properties. Introduction to physical optics, lenses, mirrors and optical instruments. Three class hours and three laboratory hours per week.

Prerequisite:

PI5621

PI5623 Engineering Physics I

A one-semester course; four credit hours. To be taken concurrently with MA5692. The principles of mechanics, including composition and resolution of vectors, statics, moments, rectilinear motion, Newton's second law, motion of a projectile, work and energy, impulse and momentum, circular motion, rotational kinematics and dynamics, elasticity, harmonic motion. Three class hours and three laboratory hours per week.

Prerequisite:

MA5691 or equivalent

PI5624 Engineering Physics II

A one-semester course; four credit hours. To be taken concurrently with MA5693. Heat, sound and optics, including the following: thermometry, quantity of heat, change of state, work and heat; heat transfer, thermal properties of matter, the first and second law of thermodynamics, wave motion, vibrating systems; acoustical phenomena; the nature and propagation of light; reflection and refraction at a single surface, lenses and lens aberration; optical instruments; illumination, color, and polarized light. Three class hours and three laboratory hours per week.

Prerequisite:

PI6523

PI5651 Engineering Physics III

A one-semester course; four credit hours. Principles of electricity and magnetism, Coulomb's Law, potential, D.C. Circuits, the magnetic field, galvanometers, ammeters, voltmeters, wattmeters, the D.C. motor, magnetic field of a current and of a moving charge, induced electromotive force, capacitance and inductance, magnetic properties of matter. Three class hours and three laboratory hours per week.

Prerequisite:

PI5624

PSYCHOLOGY

PS1101 Introduction to Psychology

A one-semester course; three credit hours. A survey course covering major topics and theorists in the field. The social, emotional, motivational, sensory and cognitive realms of behavior will be studied with a primary emphasis on normal developmental trends and patterns. Theorists considered will include Maslow, Freud, Piaget, Erikson and Skinner among others. This course is recommended as a prerequisite for other psychology courses. Three class hours per week.

PS1151 Child Psychology

A one-semester course; three credit hours. In this course students will 1) identify and discuss some of the most important aspects of normal physical, mental, emotional, social and personality development; 2) learn about biological and environmental influences on those areas of development; 3) examine some of the diverse approaches in child development research and theory; and 4) apply such research and theory to real life situations in order to become aware of the flexibility that occurs in the developmental process. Prior exposure to Introduction to Psychology is recommended but not required. Three class hours per week.

PS1152 Adolescent Psychology

A one-semester course; three credit hours. A

study of adolescent development from the point of view of both the adolescent and the adult. Basic theories of development will be examined with an emphasis on social, emotional, physical and cognitive domains. Communication and problem solving techniques appropriate to this stage will be considered in general and with reference to specific potential conflict areas. May not be offered every semester. Three class hours per week.

PS1154 Psychology of Personality

A one-semester course; three credit hours. This course introduces students to a variety of theoretical approaches to the understanding of character and personality. It includes psychoanalytic, learning, humanistic, transpersonal and existential theories. Previous exposure to basic psychological concepts and theorists is recommended but not required. May not be offered every semester. Three class hours per week.

PS1203 Developmental Psychology

A one-semester course; three credit hours. This course is a developmental life span course which surveys the psychological and also the physiological and social aspects of normal human development from conception through adulthood. The major patterns and sequences of growth and individual differences are reviewed in the light of the theories of Freud, Piaget, Maslow, Erikson, and Kohlberg. Three class hours per week.

PS1351 Social Psychology

A one-semester course; three credit hours. A discussion of the fact that human nature is social and the implications of that fact; principally the effect of others upon one's mind and self-imagery, and the complex social coordination that it allows. Special attention to individuation, the social validation of meaning and perception, symbols and symbolic interaction. Three class hours per week.

PS1354 Human Relations

A one-semester course; three credit hours. A group experience providing students with an opportunity to study and experience interpersonal relationships in a small group in which the focus is on interpersonal

communication. Limit 20 students. Permission of instructor recommended. May not be offered every semester. Three class hours per week.

PS1355 Deafness:

The Individual & Society

A one-semester course; three credit hours. This course will examine deafness from a multidisciplinary and developmental perspective. It will explore the psychological and sociological variables that affect the growth and development of the deaf individual in a hearing society. This will include the function of language in society, the effect of deafness on the cognitive, social, psychological development of the deaf person and the role of the family and other institutions in the socialization of the deaf individual. It will also attempt to explore cultural and personal attitudes towards deafness of both the deaf and hearing person. Three class hours per week.

Prerequisite:

Introduction to Psychology

PS1651 Organizational Behavior

A one-semester course; three credit hours. An introduction to problems of human relations in business and industry. Such problems as selection, placement, conflict, supervision, motivation and cooperation will be examined. (Case studies will be used when feasible). May not be offered every semester. Three class hours per week. (Formerly known as Industrial Psychology.)

PS1751 Abnormal Psychology

A one-semester course; three credit hours. The study of the etiology, treatment and prevention of mental disorders. Includes the study of functional and organic psychoses, psychoneuroses and borderline maladjustments. Introduction to Psychology is recommended as a prerequisite. Three class hours per week.

PS2112 Problems in Early Childhood Education

A one-semester course; three credit hours. A sociological-psychological study of factors leading to educational success in representative compensatory programs for the young child. This course centers around

the role of the family and cultural background as they relate to the development of school skills. Three class hours per week.

PS2114 Problems of the School-Aged Child

A one-semester course; three credit hours. The course is designed to introduce the student to the variety of problems adults encounter with children particularly in the classroom setting. An effort will be made to: 1) identify the needs and rights of children; 2) classify specific problem areas ranging from physical handicaps to cognitive, social and emotional difficulties; 3) examine and discuss methods of relating to and teaching "problem children" and 4) identify support resources available in the community to teachers and parents. A simultaneous field work assignment is recommended. Prior exposure to a psychology course, concepts and theorists is strongly recommended. Three class hours per week.

PS6551 Adulthood and Aging

A one-semester course; three credit hours. This course will focus on the human life cycle from young adulthood to late life with an emphasis on the middle and later years. Transition, adaptation, and those variables which affect successful aging will be explored. Current theorists such as Erikson, Neugrten, Levenson, and G.H. Mead will be discussed in an effort to conceptualize all of life as developmental. Three class hours per week.

RELIGION

RE1101 World Religions

A one-semester course; three credit hours. A comparative study of the major religions of the world, including Hinduism, Buddhism, Taoism, Confucianism, Sikhism, Judaism, Christianity and Islam. Three class hours per week.

RE1102 Contemporary Western Religion

A one-semester course; three credit hours. A study of the major current movements in theology and practice of religious life, with

emphasis on American religion. Death of God, Religious atheism, secular Christianity, the charismatic revival and the Jesus movement are among the themes discussed. Opportunity will be given for field work in the religious life of the Merrimack Valley. Three class hours per week.

RE1103 Eastern Philosophies and Religions

A one-semester course; three credit hours. A survey of the major religious traditions of India, China and Japan, with emphasis on Hinduism, Buddhism, Confucianism, Taoism and Shinto. The course is aimed at an acquaintance with the ways of thinking and living, as well as the value judgment inherent in eastern culture traditions. Three class hours per week.

RE1104 Judaism, Christianity & Islam

A one-semester course; three credit hours. A survey of the Judaic, Christian and Islamic traditions with emphasis on historical and cultural perspective. Attempts are made to assess the role of religion in the ancient, medieval and modern societies of the West and Middle East. Three class hours per week.

RESPIRATORY THERAPY

RS6611 Respiratory Therapy I

A one-semester course; eight credit hours. This course serves as an introduction to the discipline of respiratory therapy, including history and organization of the profession, medico-legal implications, and medical terminology. Principles and management of medical gas therapies and equipment will be explored. In addition, emphasis is placed on cleaning and sterilization techniques, and basic principles of arterial blood gas analysis. Also presented will be an in-depth study of cardiopulmonary anatomy and physiology specifically related to the field of respiratory therapy. This course will also incorporate a respiratory skills lab and clinical practicum. The content of the respiratory lab will be concomitant with the didactic material. The clinical practicum will be concerned with the clinical application of the principles and

procedures discussed in the classroom. The practicum is presented at one of the affiliated hospitals, and administered jointly by the hospital clinical instructor and a liaison faculty member from the college. Seven class hours, three lab hours, sixteen clinical practicum hours per week.

Corerequisite:
SC5515, NS6500

RS6621 Respiratory Therapy II

A one-semester course; eight credit hours. This course will present the instruction and application of procedures and equipment related to the administration of intermittent positive pressure breathing (IPPB), aerosol and humidity therapy, and pulmonary rehabilitation techniques. In addition, students will study common cardiopulmonary diseases and pathology encountered in respiratory therapy. The laboratory session will cover respiratory skills associated with the didactic material. The clinical portion of the course will cover the application of principles and procedures discussed in the classroom. Presented at one of the affiliate hospitals, it will be administered jointly by the hospital clinical instructor and a liaison faculty member from the college. Seven class hours, three lab hours, sixteen clinical practicum hours per week.

Prerequisite:
RS6611 or equivalent, SC5515, completion of RS6611 with a grade of C or better.

RS6629 Respiratory Pharmacology

A one-semester course; two credit hours. This course will present the principles of general pharmacology and action of major respiratory drugs. Some selected cardiovascular drugs will also be studied. In addition, the anatomy and physiology of the autonomic nervous system (ANS) and its role in drug action shall be studied. Also included in this course will be the history of drug development, drug legislation and regulation, dosage calculations, modes of administration, and indications, contra-indications and side effects of cardiorespiratory drug therapy. Two class hours per week.

Prerequisite:
RS6611

RS6631 Respiratory Therapy III

An eight-week course; eight credit hours. This course will present the principles of pediatric respiratory therapy, basic pulmonary function testing and assessment, and an introduction to patient bronchial hygiene and airway management. Also included in this course will be the study of the principles of mechanical ventilation and basic ventilator management. The laboratory session will cover therapeutic modalities and skills associated with the lecture material, especially the operation and maintenance of today's commonly used mechanical ventilators. The clinical portion of this course will cover the application of principles and procedures discussed in the classroom. Presented at one of the hospital affiliates, it will be administered jointly by the clinical instructor and a liaison faculty member from the college. Seven class hours, three lab hours and twenty-four clinical practicum hours per week.

Prerequisite:
RS6621; completion of RS6621 with a grade of C or better.

RS6641 Respiratory Therapy IV

A one-semester course; seven credit hours. This course will present the theory and application of advanced pulmonary functions, which will include specialized patient testing and assessment procedures. Also presented in this course will be advanced theory of acid-base physiology, which will include an in-depth study of fluid and electrolyte balance in the body. The laboratory session will cover the skills associated with the lecture material. The clinical portion of the course will cover the application of principles and procedures discussed in the classroom. Presented at one of the hospital affiliates, it will be administered jointly by the hospital clinical instructor and a liaison faculty member from the college. Six class hours, three lab hours, sixteen clinical practicum hours per week.

Prerequisite:
RS6631, SC5515; completion of RS6631 with a grade of C or better.

RS6651 Respiratory Therapy V

A one-semester course; seven credit hours. This course will provide instruction in critical care medicine, advanced ventilator

management, and intensive care therapy. The student will be instructed in clinical problem-solving situations concerning the acute and chronically ill cardiopulmonary patient. The study of prolonged mechanical ventilation will continue with emphasis on the management of patients using specialized ventilatory modes, as IMV, SIMV, PEEP. Also included in this course will be a study of electrocardiography and hemodynamic monitoring. The lab session will deal with learning the skills associated with lecture material. The clinical portion of the course will cover the application of principles and procedures discussed in the classroom situation. Presented at one of the hospital affiliates, it will be administered jointly by the hospital clinical instructor and a liaison faculty member from the college. Six class hours, three lab hours and eight clinical practicum hours per week.

Prerequisite:

RS6641, SC5515, completion of RS6641 with a grade of C or better.

RS6659 Respiratory Therapy Seminar

A one-semester course; two credit hours. Integrates the psychology of patient care and interpersonal relations with the principles of team patient care and hospital organization. An analysis is made by the student of patient care and cardiopulmonary disease management situations. Generally offered to senior students during their final semester. One two-hour seminar class per week.

Corequisite:

RS6651

RADIOLOGIC TECHNOLOGY

RT6511 Radiologic Science I

A one-semester course; three credit hours. Designed to examine the fundamentals of physical principles of electrical and X-ray physics and the operational study of X-ray equipment and auxiliary devices. The course will examine fundamental and derived units, mechanics, matter, magnetism and

electricity, electromagnetism, generators, motors and transformers. Three class hours per week.

RT6512 Radiologic Science II

A one-semester course; three credit hours. Emphasis will be placed on the formation of ionizing radiation by further analysis of X-ray and other types of circuits, tubes, etc., laws of motion, thermal considerations, optics and lens systems and radioactivity. Three class hours per week.

Prerequisite:

RT6511

RT6513 Introduction to Radiologic Technology

A one-semester course; two credit hours. This introductory course examines program, X-ray department, hospital and medical rules and protocol, historical perspectives of medicine and radiology, elementary radiation protection and ethics. Basic darkroom procedures and technique manipulation will be stressed. The course orients the student regarding details of academic and clinical environments which lead toward growth in professional development. Three class hours per week. The course will also include 8 weeks of clinical internship at the students designated affiliate hospital.

Prerequisite:

Enrollment in Radiologic Technology Program.

RT6515 Clinical Practicum I

A one-semester course; two credit hours. A concurrent aspect of Radiologic Technology I. The student will apply under direction and supervision at the affiliate hospital principles learned in the classroom. Emphasis will be placed on solidification of theoretical knowledge in the hospital setting. Activities will be under the direction of the college and the liaison instructor at the affiliate hospital. Fourteen hours of directed clinical activity and two hours of discussion for a total of 16 hours per week.

Prerequisite:

RT6519

RT6519 Radiologic Technology I

A one-semester course; four credit hours. This course will offer a comprehensive and

detailed study of darkroom chemistry, automatic and manual processing, basic principles of Radiographic exposure, preliminary radiographic positioning and Radiographic osteology. Emphasis will be placed on the understanding of Radiologic technology and its place in the clinical affiliation. Three lecture hours, two laboratory hours per week.

Prerequisite:

RT6513 - Introduction to Radiologic Technology.

RT6523 Radiologic Internship

A 10-week summer internship for 2 credits at the students designated hospital affiliate. This clinical internship allows the student continual practicum experience and reinforcement of material learned to date in the field of Radiology.

Prerequisite:

Completion of all Freshman Radiologic Technology courses.

RT6525 Clinical Practicum II

A one-semester course; two credit hours. A concurrent aspect of Radiologic Technology II. The student will apply under direction and supervision at the affiliate hospital principles learned in the classroom. Emphasis will be placed on solidification of theoretical knowledge in the hospital setting. Activities will be under the direction of the college and the liaison instructor at the affiliate hospital. Fourteen hours of directed clinical activity and two hours of discussion for a total of 16 hours per week.

Prerequisite:

RT6529 - Radiologic Technology II.

RT6529 Radiologic Technology II

A one-semester course; four credit hours. This course will continue basic positioning, radiographic exposure and their interrelated principles. An evaluation and study of the use of contrast media. Emphasis will be placed on Radiologic Technology and its place in the clinical affiliation. Three lecture hours, two laboratory hours per week.

Prerequisite:

RT6519 - Radiologic Technology I.

RT6533 Advanced Radiographic Positioning

A one-semester course; three credit hours. The student will study alternate methods of investigating the skeletal system for trauma and disease as they relate to Radiologic Procedures. Three class hours per week.

Prerequisite:

RT6529 - Radiologic Technology II.

RT6535 Clinical Practicum III

A one-semester course; three credit hours. A concurrent aspect of Radiologic Technology III, advanced radiographic positioning and special procedures. The student will apply under the direction and supervision at the affiliate hospital material learned in the classroom. Emphasis will be placed on solidification of theoretical knowledge in the hospital setting. Activities will be under the direction of the college and the liaison instructor at the affiliate hospital. Twenty-two hours of directed clinical activity and two hours of discussion for a total of 24 hours per week.

Prerequisites:

RT6533, RT6537 and RT6539 concurrently.

RT6537 Radiologic Technology III

A one-semester course; three credit hours. The following subjects will be examined in detail: a continuation of radiographic exposure and nursing procedures. Three class hours per week.

Prerequisite:

RT6529 - Radiologic Technology II.

RT6539 Radiologic Special Procedures

A one-semester course; three credit hours. The student will study special diagnostic radiographic procedures and the special equipment involved. Three class hours per week.

Prerequisite:

RT6529 - Radiologic Technology II.

RT6543 Disease and Diagnosis

A one-semester course; three credit hours. The student will study basic human diseases and critique and evaluate radiographic films

demonstrating trauma pathology and normal appearing anatomy. Three class hours per week.

Prerequisite:

RT6539 Radiologic Special Procedures.

RT6545 Clinical Practicum IV

A one-semester course; three credit hours. A concurrent aspect of Radiologic Technology IV, Disease and Diagnosis and Radiobiology. The student will apply under the direction and supervision at the affiliate hospital material learned in the classroom. Emphasis will be placed on solidification of theoretical knowledge in the hospital setting. Activities will be under the direction of the college and the liaison instructor at the affiliate hospital. Twenty-two hours of directed clinical activity and two hours of discussion for a total of twenty-four hours per week.

Prerequisites:

RT6543, RT6547 and RT6549 concurrently.

RT6547 Radiologic Technology IV

A one-semester course; three credit hours. The following subjects will be studied in detail: equipment maintenance, pediatric radiography equipment and restraints, ultrasound and computerized axial tomography. Three class hours per week.

Prerequisite:

RT6537 - Radiologic Technology III.

RT6549 Radiobiology

A one-semester course; three credit hours. The student will study the biological effects of radiation, radiation protection, radiation therapy and radioisotopes. Three class hours per week.

Prerequisite:

RT6537 - Radiologic Technology III.

SCIENCE

SC5011 Energy, Environment and our Future

A one-semester course; three credit hours. Human population and associated energy demands have increased in the last century.

This course examines the impact of this development from the points of view of food, technology and urbanization. The study of the progressive deterioration of human balance with the rest of nature shows the way psychological attitudes have to change. This course questions whether the prevailing attitudes and ever increasing energy demands can continue without destroying the delicate ecological balance that has taken so long to evolve. Three class hours per week.

SC5503 Integrated Science I

A one-semester course; three credit hours. Emphasis is placed on chemistry, physics and microbiology. The human body as a whole, the skin, the skeletal system, and the muscular system are studied. Three class hours per week.

SC5504 Integrated Science II

A one-semester course; three credit hours. Emphasis is placed on the bodily systems, metabolism, nutrition, reproduction, genetics, the eye, and the ear in particular. Three class hours per week.

SC5511 Physical Science I

A one-semester course; four credit hours. An integrated course which considers the basic principles of the physical universe, including the study of the composition of substances, the atmosphere, synthetics, the earth, and the universe, in an effort to develop an understanding of the relationship of the sciences to everyday life. Three class hours and two laboratory hours per week.

SC5512 Physical Science II

A one-semester course; four credit hours. A continuation of SC5511. Three class hours and two laboratory hours per week.

SC5514 Plants and Civilization

A one-semester course; three credit hours. Dependence of the human race on plants and plant products. How specific plants produce the food, fuel, beverages, and medicinal products, and the resultant impact on the development of civilization. Three class hours per week.

SC5515 Fundamentals of Science

A one-semester course; three credit hours. This course is designed for students in the

Respiratory Therapy programs. It contains material in mathematics, physics, chemistry and microbiology that is necessary for a basic understanding of the sciences pertaining to Respiratory Therapy. Three class hours per week.

Prerequisite:

Enrollment in Respiratory Therapy Program or permission of instructor

SC0000 Research Topic in Science

An open-end investigatory course with credit varying from one to three hours. Designed for the advanced student who is interested in a career in the sciences. The student will work on a topic of his choice under the direction of one faculty member. Topics available include areas in the biological, earth and physical sciences. Interested students should obtain a list of faculty members showing their areas of specific interest and then consult with the faculty member of his choice before registering for the course. Limited to one semester. **This course does not fulfill the science requirements for graduation.**

Prerequisite:

Permission of the instructor

SHORTHAND/ DICTATION/ TRANSCRIPTION

SH6611 ABC Shorthand

A one-semester course; three credit hours. ABC Shorthand is an alphabetic system of shorthand which gives students entry-level skills for vocational purposes or the ability to take shorthand for personal or professional use. The course includes the forty rules of the system, brief forms, high-frequency words, and dictation of business letters. Two class hours and two laboratory hours per week.

SH6621 Principles of Shorthand

A one-semester course; three credit hours. Gregg shorthand principles, including the shorthand alphabet, brief forms, phrasing,

and other abbreviating devices. Development of the ability to take dictation on practiced material at progressively higher levels. Study of the non-shorthand elements of spelling and punctuation. Four class hours per week.

SH6622 Intermediate Shorthand

A one-semester course; three credit hours. Reinforcement of shorthand principles, development of ability to take new matter dictation at progressively higher levels, and procedures and methods for handling simple, office-style dictation problems. Four class hours per week.

Prerequisite:

SH6621 or equivalent

SH6623 Machine Shorthand

A one-semester course; three credit hours. A beginning course in which touch shorthand develops through the use of a stenograph machine introduction and practice activities designed to reinforce keyboard mastery; the student acquires a thorough knowledge of the principles of machine shorthand. Four class hours per week.

SH6624 Intermediate Machine Shorthand

A one-semester course; three credit hours. Extension and development of machine shorthand theory. Quick recognition of phonetic sounds, accuracy of notes, and rapid reading are stressed to bring minimum speeds to the level of 100 words a minute. Four class hours per week.

Prerequisite:

SH6623

SH6625 Advanced Machine Shorthand

A one-semester course; three credit hours. Development of fluent and accurate writing and transcription of material dictated at speeds from 100 to 140 words a minute. Four class hours per week.

Prerequisite:

SH6624 & TW6622 or equivalent

SH6671 Introductory Shorthand Dictation and Transcription

A one-semester course; three credit hours. Development of ability to take dictation at progressively higher levels. Emphasis is placed on the mechanics of English including

spelling and punctuation and the growth of effective transcribing techniques. Five class hours per week.

Prerequisites:

SH6622 & TW6622 or equivalent

SH6672 Advanced Shorthand Dictation and Transcription

A one-semester course; three credit hours. Development of shorthand skill at the 100 to 120 word levels. Reinforcement of previously learned typing and shorthand skills to improve accuracy and speed of transcription. Advanced office-style procedures. Five class hours per week.

Prerequisite:

SH6671

SH6673 Expert Shorthand Dictation and Transcription

A one-semester course; three credit hours. Development of shorthand skill to the expert levels of 120 to 160 words per minute. Study of shorthand reporting short cuts. Vocabulary of executive dictation. Further development of transcribing skills. Emphasis on growth of ability to do conference reporting. Five class hours per week.

Prerequisite:

SH6672

SH6674 Shorthand Skills Review

A one-semester course; three credit hours. Accelerated review of shorthand theory. Special emphasis on joined and disjointed word prefixes and suffixes. Review and development of dictation skills above minimum levels. Progression on an individualized basis. Four class hours per week.

Prerequisite:

SH6621 or equivalent

SH6675 Shorthand Speed Development

A one-semester course; three credit hours. Development of shorthand vocabulary to high levels of syllabic intensity. Specialized business vocabulary. Pretranscription training. Continued skill development in dictation. Programs planned to accommodate student's level of skill. Four class hours per week.

Prerequisite:

SH6621 or equivalent

SH6677 Medical Dictation and Transcription

A one-semester course; three credit hours. Development of the shorthand vocabulary necessary to write from dictation and to transcribe medical dictation. Practice in preparing various kinds of medical reports. Five class hours per week.

Prerequisites:

SH6671 and MR6605

SH6679 Legal Dictation and Transcription I

A one-semester course; three credit hours. Development of a basic legal shorthand vocabulary. Study of the duties and responsibilities of the legal secretary in a law office. Four class hours per week.

Prerequisites:

SH6622 and TW6622

SH6691 Legal Dictation and Transcription II

A one-semester course; three credit hours. Development of the ability to take rapid legal dictation and to transcribe accurately. Students are required to type in correct legal format and be familiar with the use of legal instruments and documents. Study of the maintenance of a law library and typical law office procedures. Four class hours per week.

Prerequisite:

SH6679

OFFICE TECHNIQUES

SK6653 Machine Transcription

A one-semester course; three credit hours. Development of high-level skills in the use of transcription equipment. Emphasis is placed on the use of business, professional, and technical materials. Development of vocational transcription rates. Four class hours per week.

Prerequisite:

TW6622

SK6655 Medical Machine Transcription

A one-semester course; three credit hours. Introduction to machine transcription and development of a medical vocabulary.

Development of vocational competence in medical transcription. Four class hours per week.

Prerequisite:
TW6622 and MR6605

OFFICE ADMINISTRATION

SL6661 Office Administration I

A one-semester course; three credit hours. Required of all students in the Office and Business Education Department. Theory and problems in records management as a vital administrative support service, word processing from the viewpoint of copying and duplicating, written communications, and transmittal services. Concentration is placed upon the approach to job satisfaction through the systematic analysis of employment selection and the intensive concentration on the development of those traits and attitudes required of the highly trained professional. Three class hours per week.

Prerequisites:
TW6622 & SH6622 or equivalent

SL6665 Essentials of Office Management

A one-semester course; three credit hours. Development of judgments and insights needed by the executive secretary to function on the administrative or supervisory levels. Analysis of long-range office projects, determination of work priorities, organization of research information, and the place of human relations in the supervisory process. A case study approach to the problems of office supervision. Three class hours per week.

SL6666 Introduction to Word Processing

A one-semester course; three credit hours. Nature, purpose and function of word processing. Emerging structure of the word processing department in relationship to the total office organization. Typing, editing, transcribing and communication skills necessary for the successful word processor and correspondence secretary. Typical office plans, forms and media of communication. Four class hours per week.

Prerequisites:
TW6631 and SL6661

SL6668 Secretarial Field Experience

A one-semester course; three credit hours. Students are assigned to offices on the basis of interest and ability so that they may become a part of the business world before graduation. The student is supervised at the college by the departmental faculty and at work by the employer. One class hour and eight office hours per week.

Prerequisites:
SH6671 and TW6631

SL6670 Workshop in Secretarial and Office Skills

A one-semester course; three credit hours. An opportunity to review, refine, and improve a variety of office machines, business procedures and records management. The workshop is designed to meet the needs of persons who are now working and who are interested in reinforcing and improving existing office skills, and also for persons who wish to return to the field of office work. Two class hours and two laboratory hours per week.

SL6671 Word Processing Concepts

A one-semester course; three credit hours. Development and refinement of theoretical concepts of Word Processing necessary for satisfactory job performance in a general office environment. The course emphasizes the need for Word Processing, the efficiency of Word Processing, the Word Processing Systems, new careers created by Word Processing, Word Processing equipment and workflow, and the implementation of Word Processing in a modern business office. This concept course also provides a basis for understanding the purpose and function of Word Processing equipment. Three class hours per week.

Prerequisite:
Knowledge of the typewriter keyboard.

SL6672 Advanced Word Processing Projects

A one-semester course; four credit hours. An advanced Word Processing course to provide employable-level skills on at least one CRT and one magnetic/electronic media word processor. Practical business projects

requiring advanced operating competency will be completed on text-editing machines, including (but not limited to) the merging of machine transcription and Word Processing keyboard skills. Three class hours and two laboratory hours per week.

Prerequisites:

TW6631, SL6671 & SL6666

SL6680 Medical Office Administration

A one-semester course; three credit hours. Theory and problems in the management of the medical office including filing, making appointments, completing medical forms, telephone techniques, medical bookkeeping, and dictation and transcription procedures related to the medical office. Three class hours per week.

Prerequisite:

SH6677 and MR6605

SL6682 Managerial Communications

A one-semester course; three credit hours. Development and refinement of communication skills necessary for satisfactory job performance in business particularly on the managerial and administrative levels. The course emphasizes various types of business letter writing, reports, memoranda, and business and legal forms common to the operation of the modern business office. The preparation of business documents will be coordinated with the concepts of electronic word processing/information management. Three class hours per week.

SOCIOLOGY

SO3321 Introduction to Sociology

A one-semester course; three credit hours. This course is designed to provide the student with an understanding of 1) concepts basic to sociology; 2) the impact of social forces on human behavior; 3) modes of social interaction; and 4) relevance of sociology for the student as a member of the human community. Three class hours per week.

SO3324 Cultural Anthropology

A one-semester course; three credit hours.

An introduction to the cultural diversity of contemporary humans. Subsistence, marriage, kinship, political organizations, religion and philosophy of selected non-European peoples to be studied with a special emphasis on the North American Indian and the Eskimo. Three class hours per week.

SO3331 Marriage and the Family

A one-semester course; three credit hours. The main focus of this course is the investigation of the physiological, psychological and sociological aspects of human sexuality, interpersonal communication and relationships, marriage, divorce, and alternative forms of family living. Three class hours per week.

SO3333 Contemporary Social Problems

A one-semester course; three credit hours. An analysis of the relationship between social structure and social problems in contemporary society. The course will emphasize: 1) the interdependence of all social problems; 2) the interaction between our institutional forms and social problems; and 3) the relationship between values and social action. Previous exposure to social science courses desirable but not required. Three class hours per week.

SO3353 Introduction to Criminology

A one-semester course; three credit hours. A survey of the patterns and evolution of adult criminal and juvenile delinquent behavior analyzed in terms of various theories of such behavior; administration of criminal justice, police, law, courts (including juvenile courts) and prisons. Three class hours per week.

SO3354 Death and Dying

A one-semester course; three credit hours. America is a death denying society. The hidden aspect of this universal experience has caused untold misery. Openness, honesty, sharing and personal consciousness-raising will enable people to lead richer, happier, more productive lives. Health worker, minister, teachers, police, parents, among others, can benefit from this course. Topics covered include medical definition, historic aspects, children and death, suicide, grief, rituals, and personal acceptance of death. Three class hours per week.

SO3355 Introduction to Social Services

A one-semester course; three credit hours. An introduction to social work and human service systems in America. An overview of historical and present characteristics and clinical issues in organizations such as family and child welfare agencies, youth and correctional agencies, child care centers, mental health institutions, and other agencies and services concerned with casework, group work and community organization work. Emphasis will be placed on knowledge of agencies and services, as well as worker's role and function in meeting the needs of the client population. Three class hours per week.

SO3356 Psychosocial Aspects of Aging

A one-semester course; three credit hours. Analysis of current social gerontological literature on theory and research pertaining to biological, psychological, and sociological variables over the adult life span. Age concern in later life, special concerns such as racism, alcoholism, sexuality, retirement, finances, recreation and leisure will be studied. The course will cover the changes in behavior that occur from adulthood to old age with emphasis on those variables which contribute to successful aging. The role of family and community, especially the neighborhood support system will be examined in terms of their interaction with the aging individual. Three class hours per week.

SO3357 Experiential Sociology, Social Work or Psychology

A one-semester course; three credit hours (limited to 15 students). Experiential Sociology, Social Work or Psychology is designed to provide students with an opportunity to explore working with people in the community in order to apply theoretical knowledge acquired in the classroom to helping others. Students will gain practical work experiences either on or off campus in positions that relate to the helping professions of psychology, sociology, or social work. Students must be prepared to work a minimum of four hours a week with someone in need of help plus two hours a week of class.

Prerequisite:

Introduction to Psychology or

Introduction to Sociology or Introduction to Social Services or Human Relations

SO3358 Women and Society

A one-semester course; three credit hours. An analysis of the effect of social structure on the position of women in society. Historical, cross-cultural and biological perspectives will be used to explore attitudes toward women and their economic and political positions. Women's issues will be viewed as they parallel general human issues. The course will encourage discussion of the possible effects of women's equality on the social structure of the future. Three class hours per week.

SO3359 Work and Society

A one-semester course; three credit hours. This course examines the institution of work as a growing source of conflicts between the desire for a fulfilling job and the need for productivity, between work and family, between people and machines, between unemployment and inflation. Some of the issues discussed are the changing meaning and nature of work, the role of government in shaping jobs and workplaces, the economic and social effects of increasing numbers of working women. The values and assumptions underlying the personal and public choices we make in resolving these issues will also be discussed. Three class hours per week.

SPANISH

SP4401/SP4402 Introductory Spanish I & II

A two-semester course; three credit hours per semester. For students who have not completed two years of high school Spanish or the equivalent as determined by the department. Audiolingual emphasis. Introduction to grammatical patterns, reading and writing. Three class hours per week.

SP4421 Introductory Conversational Spanish I

A one-semester course; three credit hours. Designed primarily for personnel in public service who need basic communication skills

when dealing with speakers of Spanish only. Question/answer format; basic dialogue, pattern practices, specialized vocabularies to meet individual needs. Three class hours per week.

SP4422 Introductory Conversational Spanish II

A one-semester course; three credit hours. Pattern practice, dialogues, question/answer format; specialized vocabularies to meet individual needs. Three class hours per week.

Prerequisite:

SP4421 or equivalent

SP4423 Conversational Spanish III

A one-semester course; three credit hours. This course is open to students who have completed an introductory Spanish college-level course. Question/answer format; dialogues; specialized vocabularies to meet specific needs; specialized writing skills introduced. Conducted in Spanish. Three class hours per week.

Prerequisite:

SP4422 or equivalent

SP4424 Conversational Spanish IV

A one-semester course; three credit hours. Question/answer format; specialized writing skills; specialized vocabularies to meet specific needs. Conducted in Spanish. Three class hours per week.

Prerequisite:

SP4423 or equivalent

SP4451/SP4452 Intermediate Spanish I & II

A two-semester course; three credit hours per semester. For students who have completed two or more years of high school Spanish or the equivalent as determined by the department, or who have completed SP4401 and SP4402. A continued study of language skills, emphasizing the development of reading ability. Three class hours per week.

SP4461/SP4462 Review and Progress in Spanish I and II

A two-semester course; three credit hours per semester. A review of basic structure, verbs, and related essentials. Intended for native speakers, Hispanic students, majors and non-majors. Strengthens skills in speaking,

reading, and writing. Vocabulary and pronunciation improvement; short compositions. Reading and discussion of selected short stories, poetry and folklore. Course tailored to meet individual needs. Three class hours per week.

Prerequisite:

SP4401 and SP4402 or permission of the instructor.

THEATRE

TH7765 Introduction to Theatre

A one-semester course; three credit hours. This course has two general goals. First, to introduce the contemporary theatrical world: playwright, producer, theater structures, director, actor, technicians and designers. Second, to apply knowledge in a practical experience situation. Three class hours per week.

TH7767 Children's Theatre

A one-semester course; three credit hours. The methods and materials of production. Technical and performance demands. Audience analysis. Rehearsal/performance. Three class hours per week.

TH7769 Acting

A one-semester course; three credit hours. A lecture-performance course designed to familiarize the student with basic acting techniques. Discussion and exercises explore the vocal, bodily, and psychological aspects of acting. Script analysis, characterization, and performance. Three class hours per week.

TH7775 Fundamentals of Play Production: Directing

A one-semester course; three credit hours. The methods and techniques of directing. Adjunct activities - lighting, design, costume, makeup - are included. After seminars and scenework, students direct short plays. Three class hours per week.

TH7779 Reader's Theatre

A one-semester course; three credit hours. The focus of this course is group

interpretation of dramatized literature. Emphasis is placed on use of the voice, criteria for selection or creation of materials, and rehearsal, staging, and performance techniques. Three class hours per week.

TH7785 Mime

A one-semester course; three credit hours. The mime (or pantomime) expresses ideas and concepts using the body as primary communication. Toward this end, classical mime technique is incorporated with exercises from other movement disciplines. Readings and attendance at professional mime shows add background knowledge which enhances student performance. Three class hours per week.

TH1789 Playwriting

A one-semester course; three credit hours. Discussion concerning plot, character and dialogue leads to student written scenes and plays, which are evaluated by the class and may be staged in workshop fashion. Three class hours per week.

TH7795 History of Theatre

A one-semester course; three credit hours. A history of Western theatre from Greek to modern times. The focus of this course is on theatre architecture, production methods, acting styles and dramatic writing style in each period discussed. Three class hours per week.

TH7799 Rehearsal and Performance

A one-semester course; three credit hours. Students in this course constitute an acting ensemble which produces plays. Historical, structural and character analysis in both pre-rehearsal and rehearsal. Public performances. Critiques of performances. Three class hours per week.

Prerequisite:

Audition and written permission of instructor.

TYPEWRITING

TW6610 Keyboarding for Information Processing

One credit hour. This course is designed to

teach keyboarding skills to students entering a variety of fields such as computer science, data processing, accounting, or any occupation that utilizes a keyboard similar to a typewriter to input information.

TW6621 Typewriting I

Three credit hours. Foundation course to vocational typewriting. Development of correct basic typewriting skill. Introduction to short business and personal letters, tables, reports and other typewriting applications.

TW6622 Typewriting II

Three credit hours. Development of requisite typing skills, experience and knowledge expected of a typist new to office employment. Development of ability to make basic editorial corrections and to type manuscripts, business forms, tabulations, and correspondence.

Prerequisite:

TW6621 or equivalent

TW6631 Typewriting III

Three credit hours. Extension of typewriting skill to higher performance levels. Emphasis on typing unfamiliar and unarranged kinds of materials. Statistical typing. Production typewriting.

Prerequisite:

TW6622 or equivalent

TW6632 Typewriting IV

Three credit hours. Mastery of ability to produce rapidly long manuscripts related to reports, magazine articles and speeches. Development of the ability to compose correspondence and edit the business writings of others. Production typewriting with the development of vocational rates of speed.

Prerequisite:

TW6631

TW6641 Technical Typewriting

Three credit hours. Correct use of spelling of scientific terminology. Development of skill in typing technical and engineering correspondence, reports, rough drafts and manuscripts which contain various mathematical and chemical equations.

Prerequisite:

TW6631

VISITING PROFESSORS OF NURSING

Mirna Aescklimann, M.D.

Winona Aastrup, R.N., B.A.

Maurice Bova, M.S.W.

Donald Gauthier, M.D.

Gary Kraus, M.D.

Robert Rigsby, M.D.

John P. Shyavitz, Attorney-at-Law

Daniel Taffe, M.D.

Kathleen Wyka, R.N., B.S.

OCCUPATIONAL ADVISORY COUNCIL

John J. Linnehan, Chairman

Director, C. Frank Linnehan and Son Funeral Service
Haverhill

Daniel A. Beauregard, President

Local 1365, Communication Workers of America
North Andover

William T. Butler, Regional Director

Division of Employment Security
Massachusetts State Employment Service

John C. Cahalane, Representative

Bureau of Apprenticeship and Training
U.S. Department of Labor

June Cook, Secretary

Merrimack Valley Planning Commission
Commissioner, A95 Review Board
West Newbury

Joseph Gangi, Business Agent
Carpenters Local III
Lawrence

Terry Kenny

Employer Assistance Services Manager
Greater Lawrence Chamber of Commerce
Lawrence

Pamela Kvilekval

Pupil Personnel Administrator
Department of Public Schools
Town of Andover

Claude C. Lancome, Project Director
Council for Northeast Economic Action
Boston

Frank Orlandella

Human Resources Manager
Hewlett Packard
Andover

Michael Salach

Modicon Division, Gould Incorporated
Andover

George Sheehan

Director of Economic Development, Region III
Department of Commerce
Lowell

Richard Smith, Department Chief
Personnel, Equal Opportunity and Benefit
Merrimack Valley Works, Western Electric
North Andover

Elaine Tucker, Treasurer

Kray's
Newburyport

Robert E. Webber, President
Old Colony Bank
Haverhill

Richard C. Weiss, Metro Director
National Alliance of Business
Lowell

PROGRAM ADVISORY COMMITTEES

Community-based professionals, experts in the varied disciplines available at Northern Essex Community College, are appointed by the President of the College to advise on programming which will reflect an integration of current community needs to the mission of the college.

BUSINESS ADMINISTRATION

Dick Amidio, Auditor
President, Merrimack Valley Chapter AIB
Haverhill National Bank

Burt Barrett
Barrett's Men's Store
Haverhill

Joseph Dorazio, Vice-President
Haverhill National Bank

Theodore Dydowicz, Executive Director
Haverhill Chamber of Commerce

Joseph Giampa, Supervisor
Western Electric Company
North Andover

Herbert Phillips
Attorney at Law
Haverhill

Philip Saracusa, Cost Analyst
Raytheon Corporation
Andover

CIVIL ENGINEERING

James Bougioukas
Director of Surveying, District 5
State Department of Public Works
Haverhill

William Haskell
University of Lowell
Lowell

Raymond Mansour
Contractor
Andover

Herbert Nickerson
Town Engineer
Haverhill

Santo Nicolosi
Municipal City Engineer
Lawrence

COMMUNITY RESIDENCE MANAGER

Lucile Benson
Andover

Lucie Cripps, President
Board of Directors
East Middlesex Resident Program for
Mentally Retarded, Inc.
Reading

John Durant
South Lawrence

Patricia Eaton, House Manager
Andover

Joseph Freeman
Community Group, Inc.
Wakefield

Ken Halkin
Haverhill/Newburyport Human Services

Nick Hennessy
Greater Lawrence Psychological Center
Lawrence

Michael Kline
Shershow Mental Health Group
Lowell

Linda Kwolek, House Manager
Melrose

Thomas McLaughlin
Northeastern Family Institute
Danvers

Donna Nicholes
Client Management System
Plaistow, N.H.

Bruce H. Palmer, Coordinator
Mental Retardation Services
Haverhill/Newburyport
MH/MR Area Office
Merrimac

Skip Parks
Harbour School
Amesbury

Lillian Pease, Director
Fidelity House, Inc.
Lawrence

Diane Roderick, R.N.
Haverhill YWCA
Haverhill

John Zbyszynski
Haverhill/Newburyport Human Services
Haverhill

David Reed
Varian Extrion
Gloucester
Ronald Smith, Engineer
Western Electric Company
North Andover

COOPERATIVE EDUCATION

Edward Coakley
Greater Lawrence Regional Vocational
Technical High School
Andover

Robert Dumont, Director
Victim Witness Assistance Program
Essex County D.A.'s Office
Lawrence

Mary Lou Elias
Student
Merrimack Valley Insurance Group

Jean Fletcher
Bay Bank/Merrimack Valley
Lawrence

David Flint
Kim Nichols Center
Plaistow, NH

Donald Horgan
Faculty Member, Division of Business
Northern Essex Community College

John Kendrick, Training Coordinator
M/S 12A1, Wang Labs
Lowell

Cheryl Merino
Consultants and Designers
Atkinson, NH

Karen Meuse
Student
Haverhill Community Action Commission

Michael Moore
Consultants and Designers
Atkinson, N.H.

Jean Poth, Chairperson
Office and Business Education
Northern Essex Community College

CRIMINAL JUSTICE

Police:
Joseph Garand, City Marshal
City of Newburyport
Robert Tyrrell, Chief of Police
Dracut

COMPUTER TECHNOLOGY

Douglas Adams
Compugraphics Corporation
Wilmington

Don Hedman, N.E.C.C. Graduate
Devcon Corporation
Danvers

William Lewis
College Relation Manager
Wang Laboratory
Lowell

Edward Higgins, Lt. of Police (Ret.)
Massachusetts State Police

Courts:

Honorable Paul Perocchi, Justice
Lawrence District Court

Robert Donahue, Probation Officer
Newburyport District Court

Arthur Delaney, Chief Probation Officer
Haverhill District Court

Corrections:

Dominic Tuccolo, Corrections Officer
Acting Deputy Superintendent
Essex County House of Corrections
Lawrence

Robert Flanagan
Assistant Commissioner of Corrections
Department of Corrections
Boston

Charles H. Reardon, Sheriff
Essex County
Salem

Security:

Frank Baggett, Security Manager
Systems Division, Avco Corporation
Wilmington

Richard Wolkivits, Director of Security
New England Nuclear Corporation
Boston

John Peters
Criminal Justice Consultant
Braintree

Educators:

Dr. Joseph Lipchitz, Coordinator
Administration of Law & Justice
University of Lowell

Dr. Alan Balboni, Chairperson
Department of Public Services
Boston State College

Robert Croatti, Assistant Dean
College of Criminal Justice
Northeastern University

Students:

Steven Alliette
Criminal Justice - Evening Student
Methuen

Leslie Simes
Criminal Justice - Day Student
Bradford

EARLY CHILDHOOD EDUCATION

Sheila Balboni, Director
Lawrence Community Day Care Center
Lawrence

Grace Bernardin
Family Day Care Consultant, LCDC
North Andover

Joyce Calogero
Family Day Care Coordinator
Office for Children - Region III
Middleton

Sandra DeVellis, Director
Pentucket Workshop
Georgetown

Janis Dorr
Lawrence Family Day Care
Lawrence

Charlotte Gulezian, Director
Merrimac Child Care Center
Haverhill

Stephanie Herman
GLCA Day Care
Lawrence

Martin Kadel
Boy Scouts of America
Haverhill

Maryellen Harrison King
Lawrence

Lynne Lynch
Peabody School
Haverhill

Maureen Moss, Director
Spring Street School
Newburyport

Helen Murgida, Director
Pentucket Workshop
Georgetown

Lois Richardson
Haverhill

Irene Rochwarg, Director
ECLC Learning Center
North Andover

Verne Schildhauer
Early Childhood Consultant
Department of Education
North Reading
Jean Sweeney, Licensing Agent
Office for Children - Region III
Middleton
Warren Thuotte
Superintendent of Schools
Haverhill

Diane Wekelo
Language Specialist
Salisbury
Maureen White
Reading Specialist
Haverhill
Dr. Robert Zollo
Administrator of Special Education
Chelmsford Public Schools
North Chelmsford

EDUCATIONAL ASSISTANT/ LANGUAGE COMMUNICATION

Paul Antonellis, Education Specialist
Division of Special Education
Bureau Program Audit & Assistance
State Department of Education
Victor Atkins, Principal
Cashman Elementary School
Amesbury
Frank Benenati, Director
Bilingual Programs
Lawrence
Larry Borin, Special Ed. Administrator
Pentucket Regional School System
West Newbury
Joan Connolly
Title I Aide
Haverhill
Joseph Connolly, Principal
Wilmington Junior High School
Wilmington
Doreen Fay, Resource Room Specialist
Bagnall School
Groveland
Linda Gilmartin
Merrimac
Adrienne Marro
Special Needs Aide
Haverhill
Margaret Peabody
Program Graduate
Wilmington
Linda Schaeffer, Clinical Coordinator
Early Intervention Program
West Newbury
Kathy Sworobowicz
Language Aide
Newburyport

ELECTRONIC TECHNOLOGY

Harvey Cole
Raytheon Missile Systems Division
West Andover
Maurice Foulds
Western Electric Company
North Andover
Fred Kenyon
Honeywell Information Systems
Lawrence
Joseph Klementovich
Wang Laboratories
Tewksbury
John Moon
Compugraphics Corporation
Wilmington
Michael Sommers
Hewlett Packard Company
Andover

GERONTOLOGY

Janet Boulanger, Assistant Administrator
Hale Hospital
Haverhill
Stephen Boy, M.Ed.
R. Habbick Associates
Haverhill
Jeanette Courtemanche, Vice-Chairperson
Greater Lawrence Council on Aging
Methuen
Rev. Norman Crook, Director
Bethany Homes
Haverhill
Rosanne DiStefano, Assistant Director
Elder Services of Merrimack Valley
Lawrence

Janice Frank, Director
Council on Aging
Haverhill

May Futrell, Ph.D., Director
Gerontological Nurse Practitioner Program
University of Lowell

Inez Lund, Chairperson
Councils on Aging
Haverhill/Newburyport

Ruth McCarthy, MSW
Lawrence Catholic Charitable Bureau
Lawrence

Don McCaul, MSW, Director
Children's Aid & Family Society
Haverhill

Amy Olenio, Graduate in Gerontology
Northern Essex Community College
Haverhill

Jane Stewart, Case Manager
Elder Services of Merrimack Valley
Lawrence

INTERPRETER TRAINING

Craig Anderson
Coordinator of Deaf Student Services
Northeastern University
Boston

Nancy Becker, Instructor
Massachusetts State
Association of the Deaf
Winchester

Cynthia Bedient
Coordinator, Interpreter Services
Massachusetts Office of Deafness
Boston

Cathy Cogen, Instructor/Coordinator
Sign Language Programs
Northeastern University
Boston

Ruth Coppersmith
Wollaston

Dr. Richard Dirst
Director of Public Relations
R.I.D., Inc.
Silver Spring, MD

Stuart Gulhang
Lawrence Deaf Club
Amesbury

Walter Hamilton, Graduate
Interpreter Training Program
Beverly School for the Deaf
Beverly

Dr. Robert Hoffmeister
Director of Deafness Research Center/
Coordinator of Education of Deaf Program
Boston University School of Education
Boston

Lindsay Huppe
EDCO Secondary Education
Hearing Impaired Program
Newtonville

Judy Sheppard Keg
Hampshire College
Amherst

Stephen Nover
Boston University School of Education
Boston

Donna Panko
Interpreter/Educator of Deaf
South Hamilton

James Pederson, Coordinator
Massachusetts Office of Deafness
Outreach Center West
Springfield

Louis Willett, Area Director
Lawrence Office
Massachusetts Rehabilitation Commission
Lawrence

Patti Wilson, Representative
Deaf Community/Deaf Professions
Winchester

Jean Brennan-Woods, Director
Gallaudet College Extension Center
Northern Essex Community College
Haverhill

MEDICAL RECORD

Carolyn F. Bashaw, Ass't Administrator
Anna Jaques Hospital
Newburyport

Cheryl M. Broderick, RRA, Director
Medical Record Department
Lawrence General Hospital

Barbara Curley, ART
Medical Record Department
Malden Hospital

Robert W. Duncan, ART, Director
 Medical Record Department
 Quincy City Hospital

Lillian Koki, RN
 Utilization Review Coordinator
 Chronic Disease/Rehabilitation Hospital
 Salem

Charlene Michaud Potter, ART
 Assistant Director
 Medical Record Department
 Beverly Hospital

Steve Molloy, RRA, Director
 Medical Record Department
 Lowell General Hospital

J. Robert Shaughnessy, M.D.
 Chronic Disease/Rehabilitation Hospital
 Salem

Dorothy Wagg, RRA
 Medical Record Department
 New England Memorial Hospital
 Stoneham

Pamela Woodman, RRA, Director
 Medical Record Department
 Anna Jaques Hospital
 Newburyport

Oliver David
 Work Activities Center
 Haverhill

Jack Doyle
 Alcohol Unit
 Hampstead Hospital
 Hampstead, N.H.

Peggy Duckworth, R.N.
 Hampstead Hospital
 Hampstead, N.H.

Elissa Fenster
 Harry Saloman Mental Health Center
 Lowell

Marilyn Hobby
 Opportunity Workshop
 Newburyport

Bernice Houverus
 John T. Berry Unit
 North Reading

Sally Howard
 Day Activity Center
 Haverhill

Diane LoVosco
 Bon Secours Hospital
 Methuen

Bruce Nardella
 Northeastern Family Institute
 Middleton

Douglas Peterson
 North Essex Mental Health Center
 Haverhill

Alexander Rutherford
 Harbour School
 Newbury

Nick Sarbanis
 Timberlane Junior High School
 Plaistow, N.H.

Karen Shack
 Women's Resource Center/Y.W.C.A.
 Lawrence

George Szelest
 St. Ann's Home
 Methuen

Kathleen Tessitore
 Greater Lowell Association for
 Retarded Citizens
 Lowell

Raymond Wiseman
 Prospect Halfway House
 Lawrence

MENTAL HEALTH TECHNOLOGY

Dave Anglium
 Detoxification Unit
 Lawrence General Hospital

Mary Lou Boes, R.N.
 Greater Lawrence Inpatient Unit
 Hathorne

Karen Botti
 Hogan Regional Training Center
 Hathorne

Jay Casey
 Team Coordinating Agency
 Haverhill

Ann Clark
 Middleton

George Curtin
 Pupil Services
 Haverhill School Department

OFFICE & BUSINESS EDUCATION

Verna Carbone, Skills Specialist
Gloucester High School
Gloucester

Geraldine Fera, Associate Professor
State College at Salem
Salem

Bradley Judkins
Pentucket Shoe Store
Haverhill

Donald Laing, President
Family Mutual Savings Bank
Haverhill

Frederick Malcolm, President
Malcolm Insurance Agency, Inc.
Haverhill

Edward W. Powers, General Counsel
Harvard University Association
Cambridge

RADIOLOGIC TECHNOLOGY

Bon Secours Hospital Methuen, MA

Mary Ellen Davis, RT (Chief Technologist)
Paula Keogh, RT (Clinical Instructor)
Michael Kinsella, M.D. (Chief Radiologist)

Hale Hospital Haverhill, MA

Gene Rehse, RT (Chief Technologist)
Mier Seggev, M.D. (Medical Director)
Woodie Surpitski, RT (Clinical Instructor)

Lawrence General Hospital Lawrence, MA

Andre Belanger, RT (Director)
Kenneth Pedini, M.D. (Chief Radiologist)
William Doak, RT (Chief Technologist)
Debbie Ralls, RT (Clinical Instructor)

Lowell General Hospital Lowell, MA

Mary Joe Berube, RT (Clinical Instructor)
Michelle O'Brien, RT (Chief Technologist)
James Rourke, M.D. (Chief Radiologist)

Janet Bourque, RT
568 Haverhill Street
Lawrence, MA

No. Andover X-Ray & Scanning (Work)
50 Prospect Street
Lawrence, MA

Florence Wakefield, RN, RT
Merrimac, MA

REGISTERED NURSING

Wilma Barker, Director of Nurses
Hogan Regional Center
Hathorne

Joan Callaghan, Director of Nursing
St. Joseph's Hospital, Lowell

Margaret Duckworth, Director of Nurses
Hampstead Hospital
Hampstead, N.H.

Russell C. Goldbaum, M.D.
Haverhill

Judith M. Haywood, Director
Division of Nursing
Lynn Hospital

Dorothea Hughes, Director of Nurses
Bon Secours Hospital
Methuen

Norma Johnston
Associate Administrator of Nursing
New England Memorial Hospital
Stoneham

Patoula Kalergis, Director of Nurses
Lowell General Hospital

Shirley Kennedy, R.N.
Bradford

Shirley Lemke
Assistant Director of Nursing
St. John's Hospital
Lowell

Sr. Ann MacKenzie, Director of Nursing
St. John's Hospital
Lowell

Jean Overbeck, Director of Nursing
Bay State Rehabilitative &
Nursing Care Facility
North Billerica

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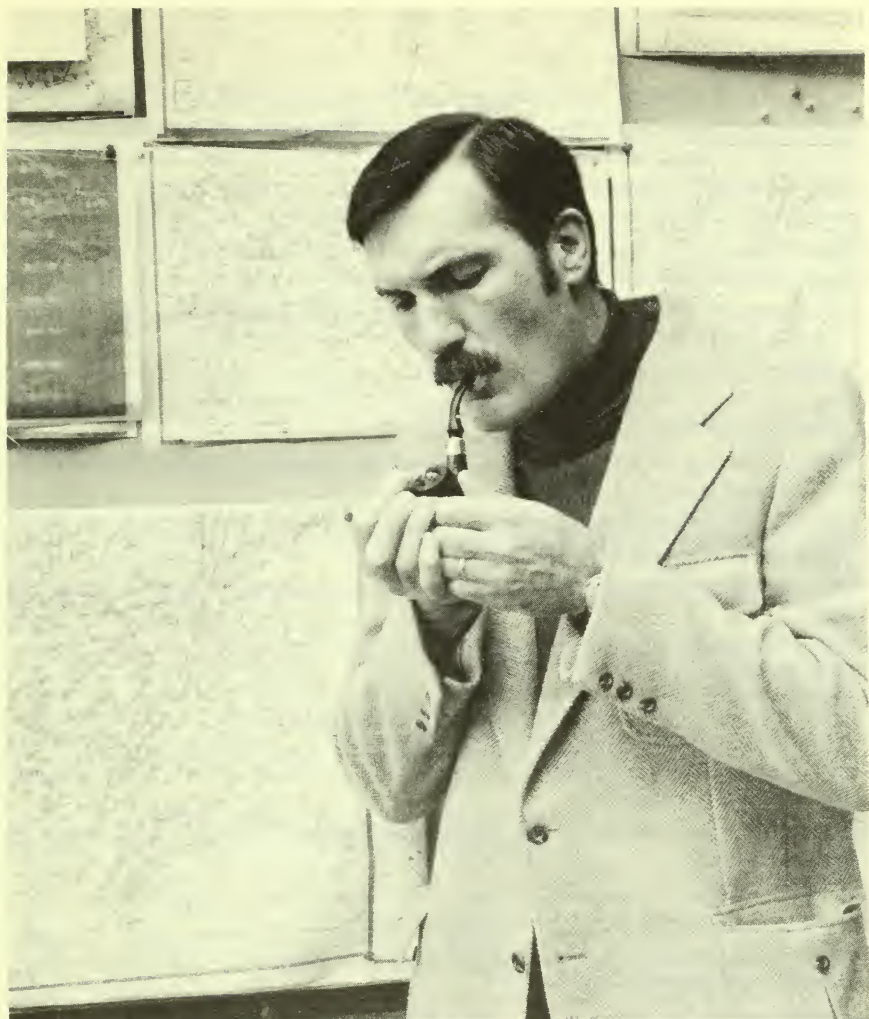
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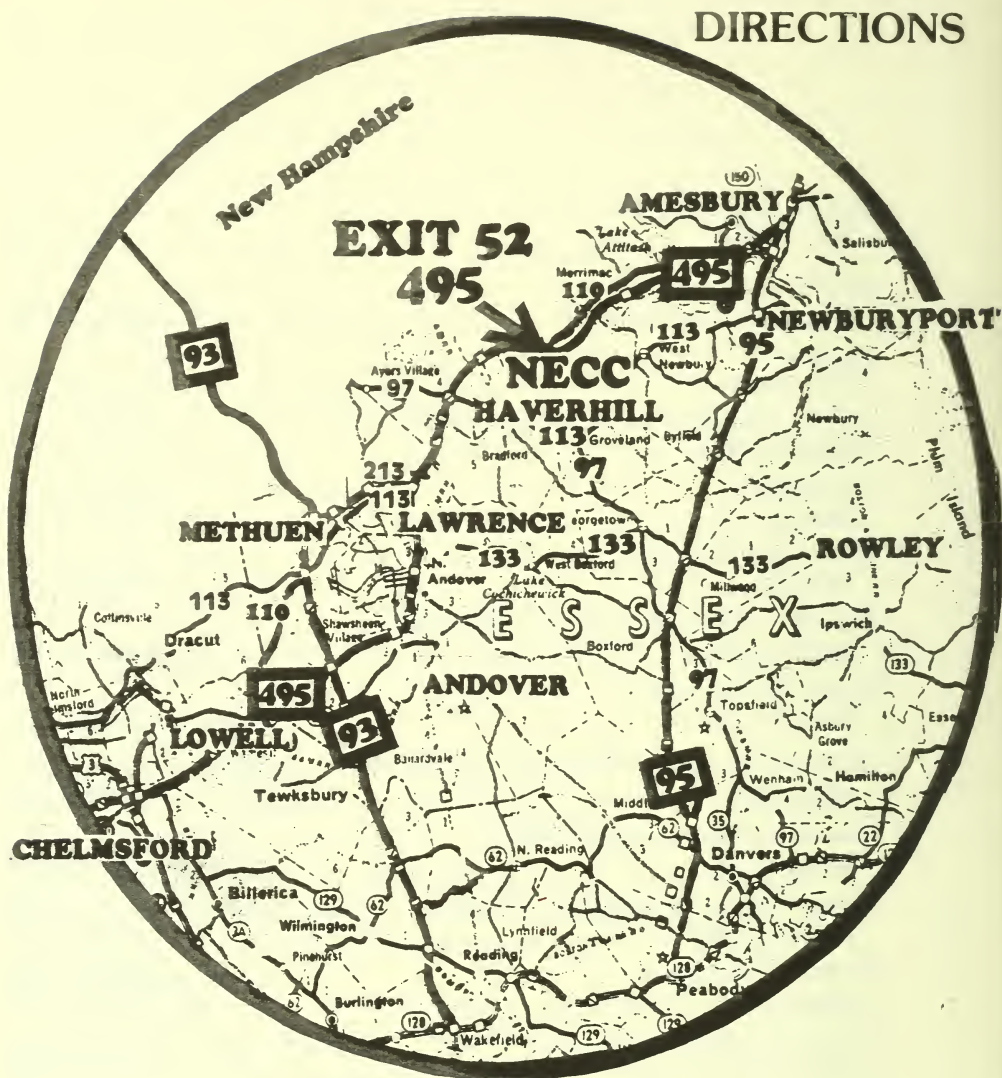
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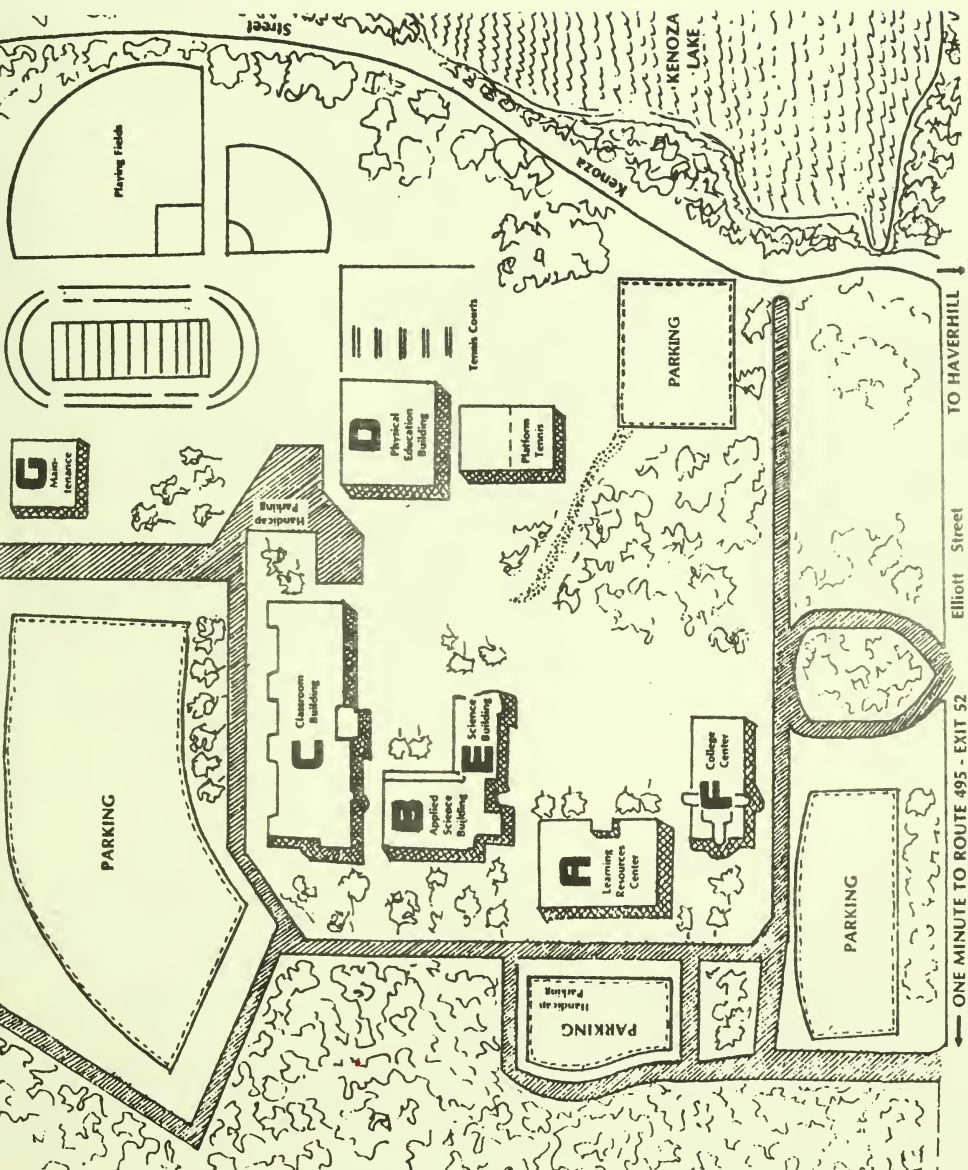


Northern Essex is located at Exit 52 off Route 495 in Haverhill. Major roadways connecting with Route 495 are Route 93 from the south and Route 95 from the North.

COMING FROM THE NORTH, take Exit 52 and turn right. The entrance to the campus will be on the left, immediately after the entrance to Route 495 north.

COMING FROM THE SOUTH, take Exit 52 and turn left. The entrance to the campus will be the next left.

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